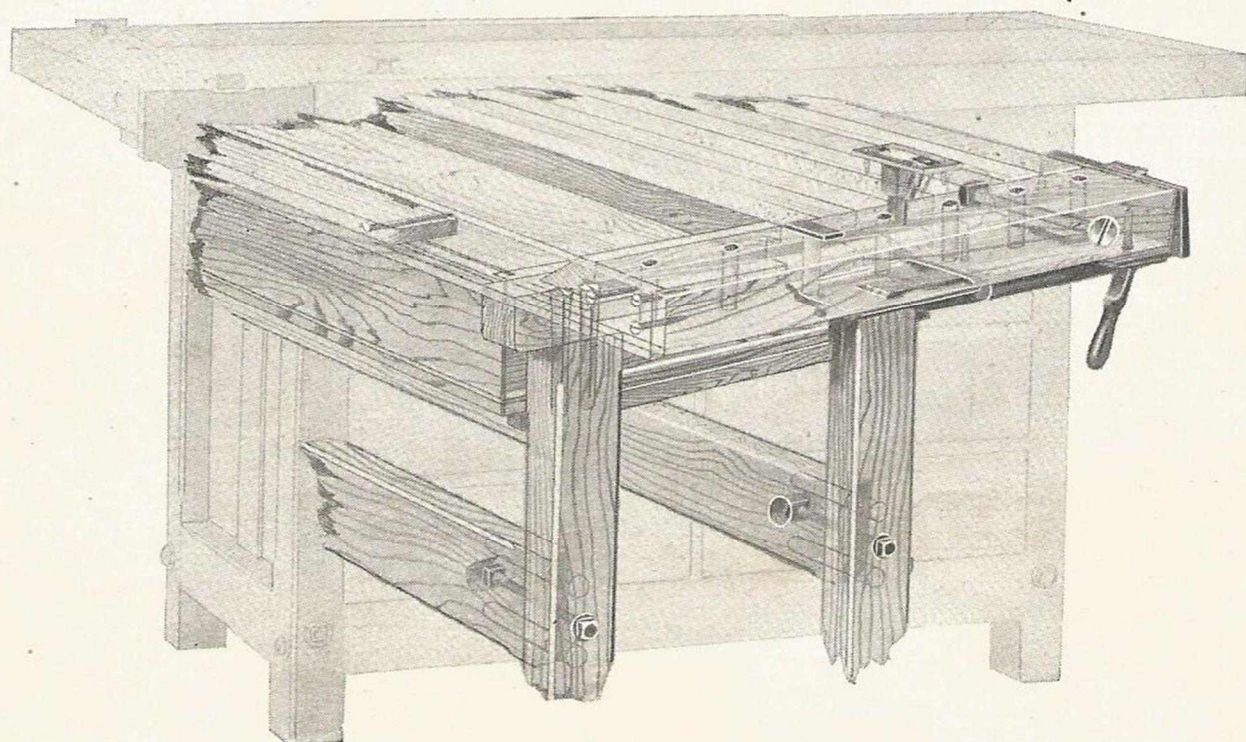


INDUSTRIAL SCHOOL

CRAFTSMAN AND WOOD SHOP APPLIANCES

CATALOG No. 11



What An Expert Sees In Our Bench Construction

WE rely wholly on the merits of our samples to sell our goods, and invite the most searching scrutiny of our products. These samples travel at one-tenth the cost that we could, and are ten-times more convincing than we can be. We will gladly ship to school authorities, for inspection, samples of any of our products, on which we agree to pay transportation both ways if they fail to prove acceptable.

E. H. SHELDON & COMPANY

82-86 North May Street

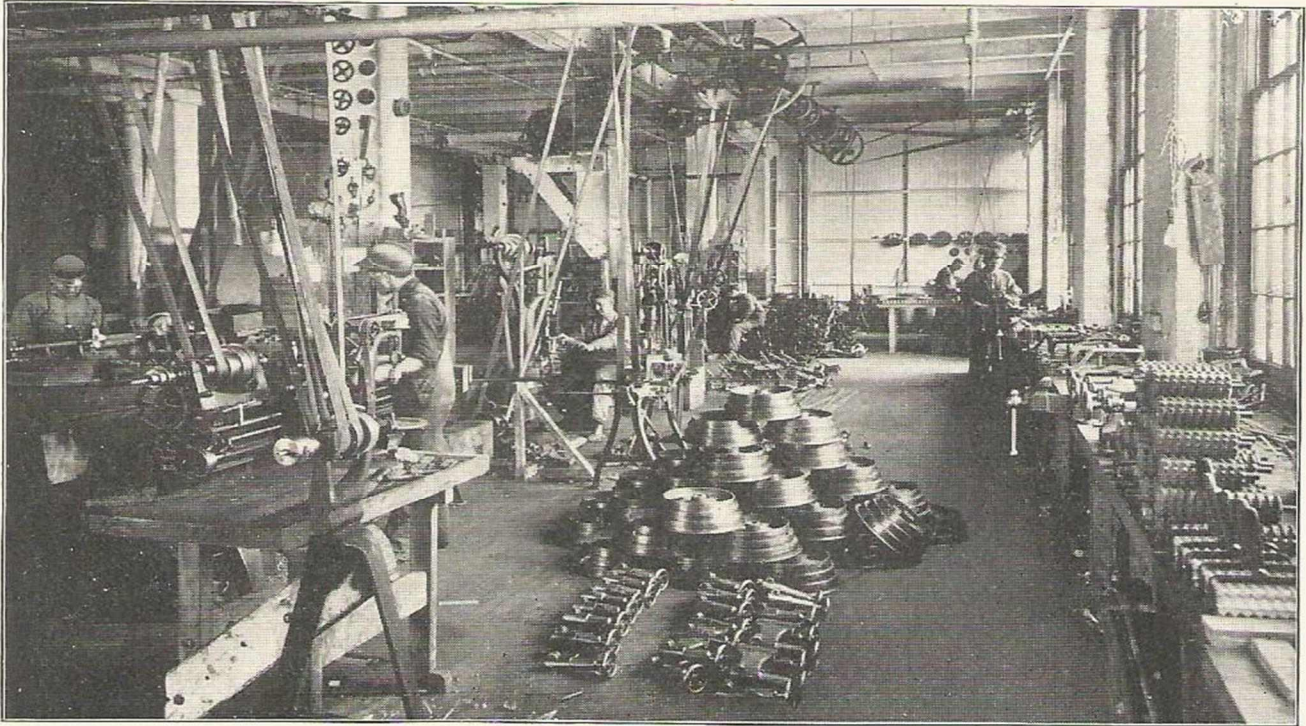
CHICAGO, ILLINOIS

Industrial Training

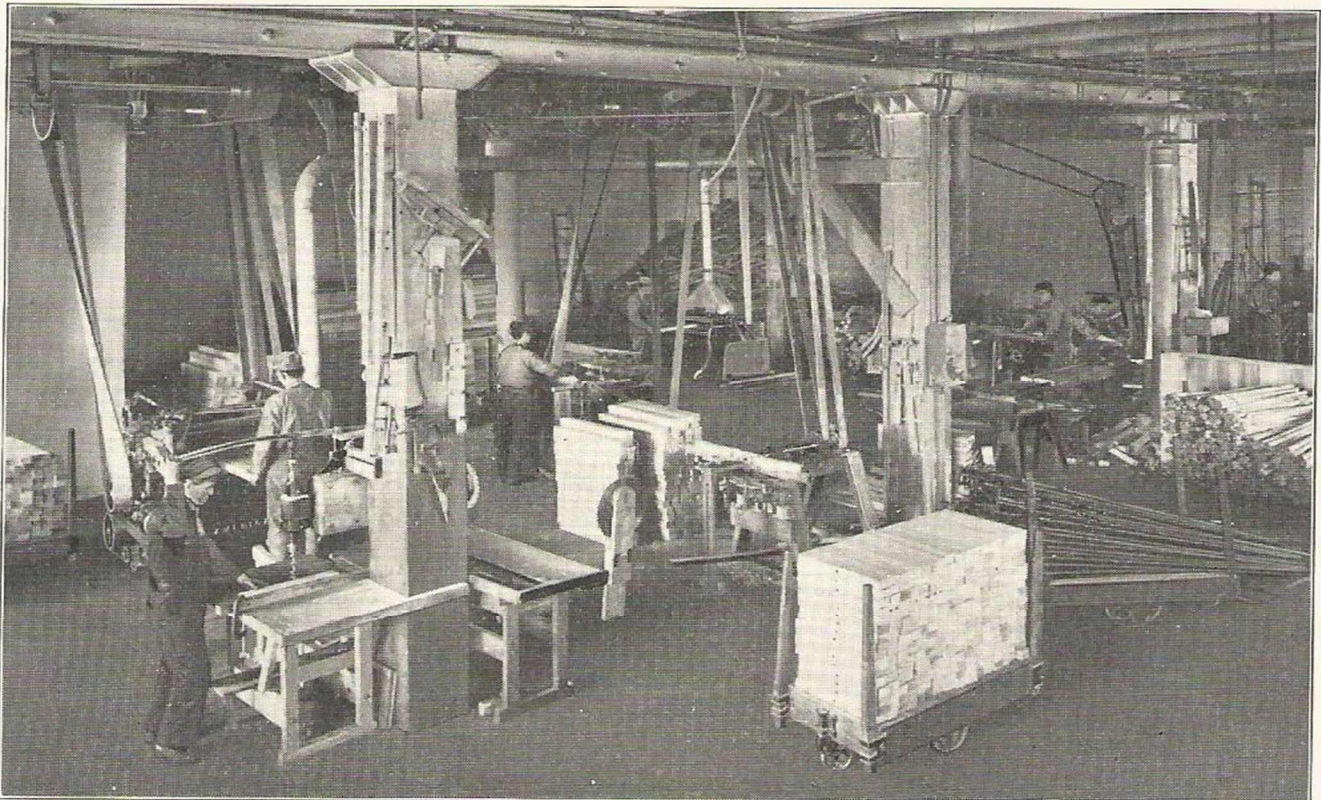
ITS importance and its benefits in our educational system has ceased to be questioned. The problems of method, amount, and place are now uppermost. While there is a considerable variance on these points, there is little question as to their ultimate solution even in our most remote districts. The theory has been exploded that our boys during school age should devote one-thousand hours yearly to acquire the art of saying and singing things, when our records show that ninety-five per cent of them must eventually earn their living doing things. Further, a boy whose time is worth one dollar per day will not stay in school to get less than twenty cents worth of an art he recognizes little value in. This fact more than any other is raising the standard, and advancing this cause, particularly in the grades before our boys quit school.

We are begining to recognize the false economy in our industrial education methods of spending ten cents on the grade boy to ten dollars on the high school boy when pedagogically it is apparent, there is no difference as to their eqnality so far as ability and rights are concerned. Further, that a pocket knife and a piece of sandpaper for tools, and a seed label for a problem, partakes somewhat of an insult to a boy who can and should make a man's chair. Basing our policy on this conviction we have from our begining endeavored to produce utilities, be they for the college, high school, or grades with a man's chair efficiency, and a cost below any kind of a consistent substitution. Our apprenticeship in this business began as a student in one of the earliest classes in the first independent manual training school in the United States. Next as a teacher, covering a period of thirteen years, in practically every phase and grade of this work.

The utilities described in this book are designed not only with this personal experience, but a still longer experience in manufacturing for this trade every year, adding simplicity and durability to our goods, breadth to our guarantees, and volume to our endorsements. We can now almost certainly give you not only a willing but enthusiastic reference in your own near locality. Let us try.



Our 80-foot of Machine Tools on all of which we have spared no expense in fitting out with jigs and gauges for the improved and economical production of our line.



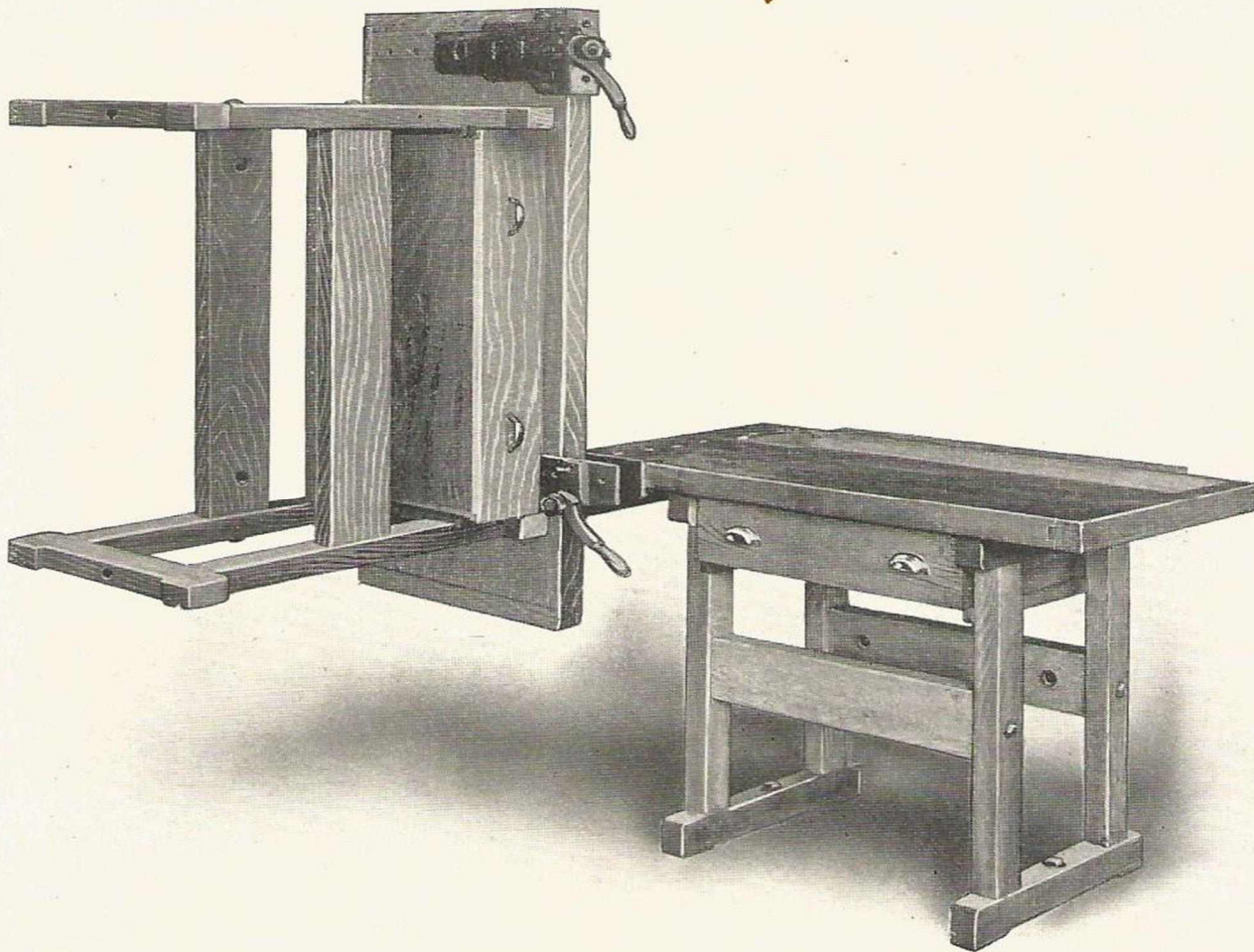
Cutting and Planing Department of our Bench Shop, not the biggest in the world, but where the best bench is made. No part of it so far away we cannot see and correct defects in material, workmanship, or design. Our new facilities for kiln drying, sanding and finishing are designed solely to produce these benches in the very best and most economical manner possible.



View in Our Assembling Shop

OUR facilities now include a capacity for kiln-drying, machining and finishing complete fifty standard single benches per day. Our kiln-dry runs day and night on high pressure steam that never fluctuates. We are in the center of one of the largest maple and birch markets in the world. Our stock is contracted for a year in advance, selected from cargo lots and delivered to us at a cost below any kind of railroad rates.

The popularity that our standard benches have attained has enabled us to adopt the policy of making large stocks, finished complete, ready for shipment during the buying season. We are in the center of one of the largest shipping points in the world, and can load our shipments direct into cars that run without change to all cities of even moderate size in the United States; we are now in a position to start a sample bench, with tools or lathe, direct to its destination the day we receive the order, and stand ready to pay the freight both ways if they do not prove themselves acceptable.



Sheldon's Rapid Acting Woodworkers' Vises

The above photograph shows our Alaska Model Bench, weighing 150 lbs. held by the extreme ends of the jaws of our No. 3 Vise on a Denver Model Bench. While this appears to be an excessive strain, ten years' experience in the manufacture of Vises has taught us it is not an unusual one in the hands of an unskilled, inexperienced user; and we invite those investigating our Vises to test them in a similar manner.

We believe we have no more convincing proof of the superiority of our Vises over all others as regards strength, rigidity, power, and durability. With our modern Vise, we urge competitive tests in every respect with Vises of any cost. We invite, also, consideration of our record of sales with various cities, page 19 of this catalogue. We consider this our next best proof of the above claims.

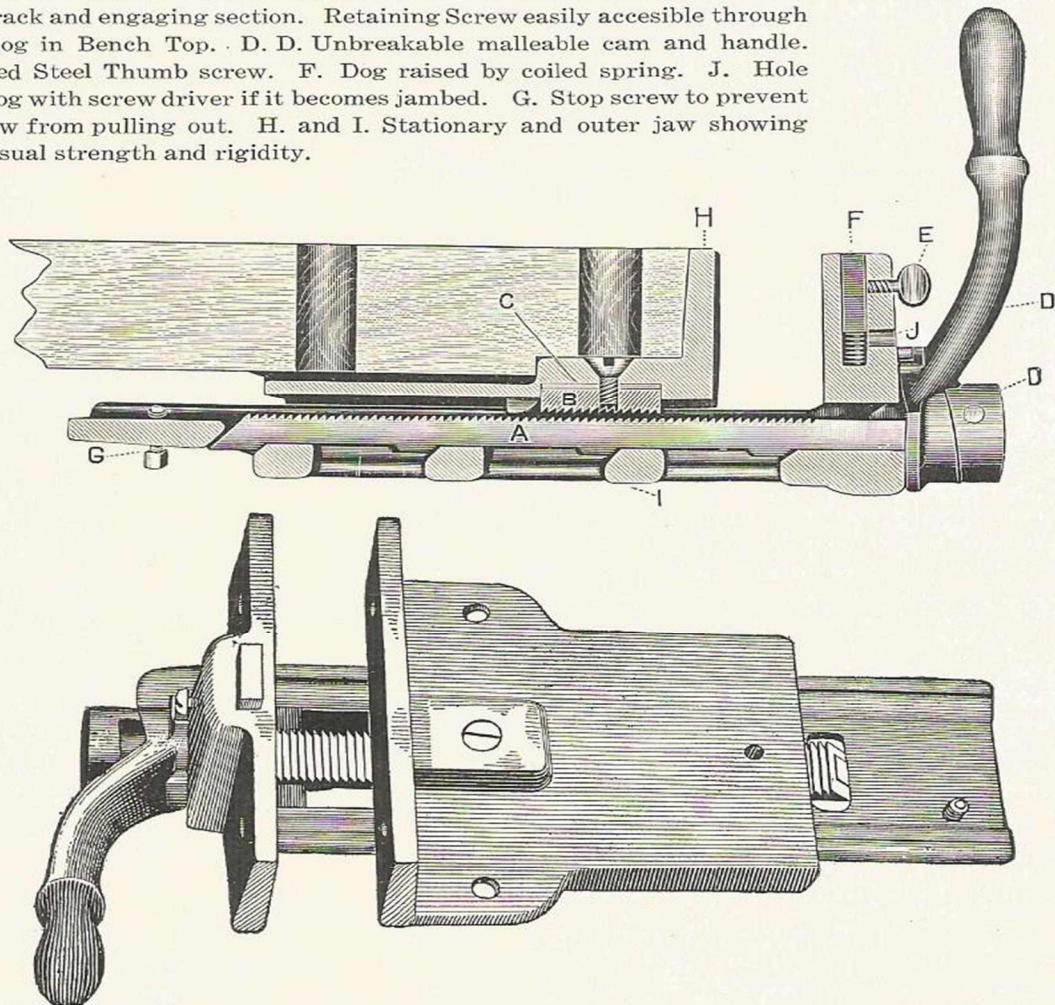
We have adhered strictly to the principles that make a successful machinist's vise rigid and powerful, constructing the outer jaw and slide in one solid piece. We have developed by long experience and great expense our methods of construction along these lines; eliminating all weaknesses as regards strength, wear, and adjustment until we now guarantee these Vises unconditionally. We will refund the purchase price immediately on the return of any that show any weakness or wear, or otherwise prove unsatisfactory any time within three years. We do not ask the privilege of repairing or replacing, we will refund the money paid.

We are glad to ship samples on approval to school authorities, and pay transportation charges both ways if on investigation these Vises are not found to be entirely suited to the purpose required, or the very best values to be had.

Get quantity discounts.

SECTION OF No. 3 VISE

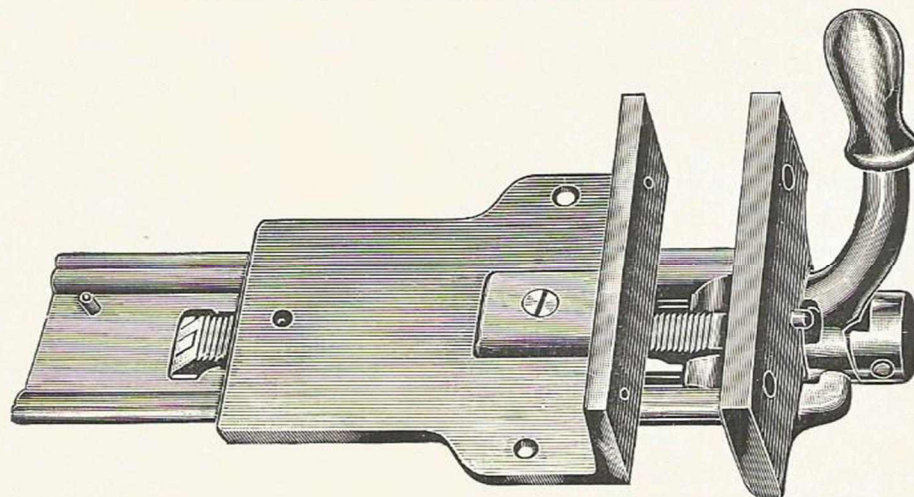
A. Forged Steel Rack accurately milled. B. Steel section engaging fourteen milled teeth in rack. C. Cardboard adjusting washer, affording a simple indestructible means of adjustment for wear and thrust between rack and engaging section. Retaining Screw easily accessible through hole for dog in Bench Top. D. D. Unbreakable malleable cam and handle. E. Forged Steel Thumb screw. F. Dog raised by coiled spring. J. Hole to start dog with screw driver if it becomes jammed. G. Stop screw to prevent sliding jaw from pulling out. H. and I. Stationary and outer jaw showing their unusual strength and rigidity.



Price, \$3.75

RAPID ACTING VISE No. 3
Opens 8½ inches. Jaws, 3 inches by 7½ inches.

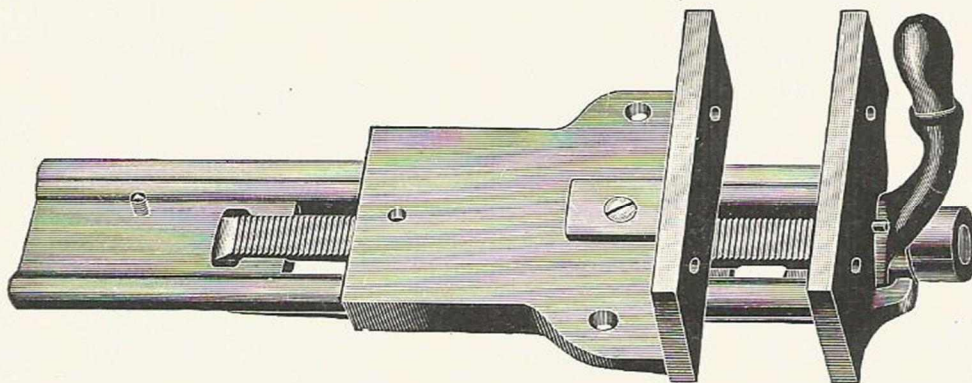
Weight, 27 Pounds



Price, \$3.50

RAPID ACTING VISE No. 4
Opens 9 inches. Jaws, 3 inches by 7½ inches.

Weight, 25 Pounds



Rapid Acting Vise No. 5

Price, \$4.50

Weight, 35 Pounds

DIMENSIONS: Jaws $3\frac{1}{2}$ x 8 inches. Opens 12 inches.

Our No. 5 Vise is constructed like our No. 4, but designed to meet the demand for an exceptionally spacious, powerful woodworker's Vise. We urge prospective buyers to compare the efficiency, durability, convenience of action, and finish of these Vises with those of any other make or price. If you are going to equip a school send for a sample to test. If you return it, we will pay transportation both ways.

Quick Set Bench Stop

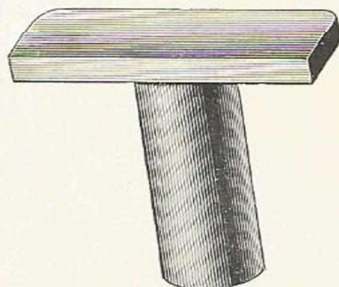
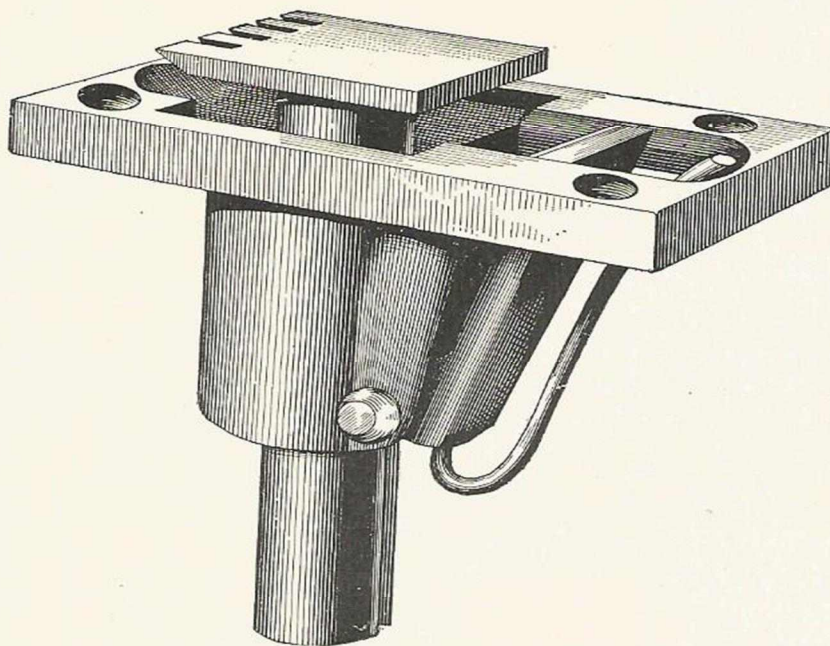
Price, \$.40

Weight, 1 Pound

This is the best and most convenient Bench Stop to be had at any price.

Woodworkers like it because it is a strong, rigid Stop that can be instantly adjusted to any position without the use of a screw driver.

The head can be raised two inches above bench top and is made reversible, so that smooth edge can be presented to the work. This feature will be appreciated, as it often can be utilized to protect finished work.



Steel Bench Dog

Price, \$.25

DIMENSIONS: Top $2\frac{1}{4}$ inches long, 1 inch wide, $\frac{1}{4}$ inch thick. Shank cold rolled steel $\frac{3}{4}$ inch in diameter and $2\frac{1}{4}$ inches long. All nicely polished.

This Dog is furnished with all of our Benches, is practically indestructible and provides the most suitable surface possible for clamping work in connection with No. 3 or any Tail Vise.

Our Bench Construction

MATERIAL: Clear selected, thoroughly seasoned hard maple. Kiln-dried under our new and special process not only insuring absolute stability, but which we guarantee.

TOP CONSTRUCTION: Working portion composed of strips $1\frac{3}{4}$ inches wide, glued up and finished to full $2\frac{1}{4}$ inches thick, or over.

DRAWER CONSTRUCTION: Ends and sides $\frac{7}{8}$ inch thick. Bottom full $\frac{3}{8}$ inch. One piece gum veneer. Grooved in all sides. Note above manner of tongue and grooving our drawer corner joints. Drawer slides mortised into frame.

FRAME CONSTRUCTION: By the new process of joint construction we have more than doubled the strength of our frames. The girts are full 5 inches wide, unusually heavy and bolted to the stands with 6 inch machine bolts. Note artistic manner of chamfering the corners of the frames.

FINISH: We have during the past year installed one of the most improved Multiple Drum Sanding Machines, such as are found only in the highest grade cabinet shops. This enables us to produce surfaces on our woodwork equal to that of the best furniture. Every piece used in the construction of our benches is thoroughly sanded, all sides, before assembling. The completed bench is given an oil finish, which brings up the wood coloring in the most artistic manner, and preserves the material.

Reference to the phantom view (opposite page) shows the manner of grooving the end bolsters into the top with the heavy tongue and grooved joint. The bolster to which the vise is attached is 5 inches wide with a series of $\frac{3}{4}$ -inch holes bored to the back end, and fitted with our round shank steel bench dog, (see page 5) making it possible to hold work such as chair seats, table tops, frames, etc., up to 31 inches wide between the vise and bench dog, and in no way straining the glued joints of the top.

Note the manner in which this wide bolster is anchored to the working portion of the bench by the $\frac{1}{2} \times 7$ inch special flat, countersunk head, bolt and nut; the head not being allowed to project beyond the surface of the wood, as such a bolt is a constant source of dulling saws and edged tools while work is being done in the vise. The front hole in this bolster is bored over section screw of vise permitting adjustment here without removing vise from bench.

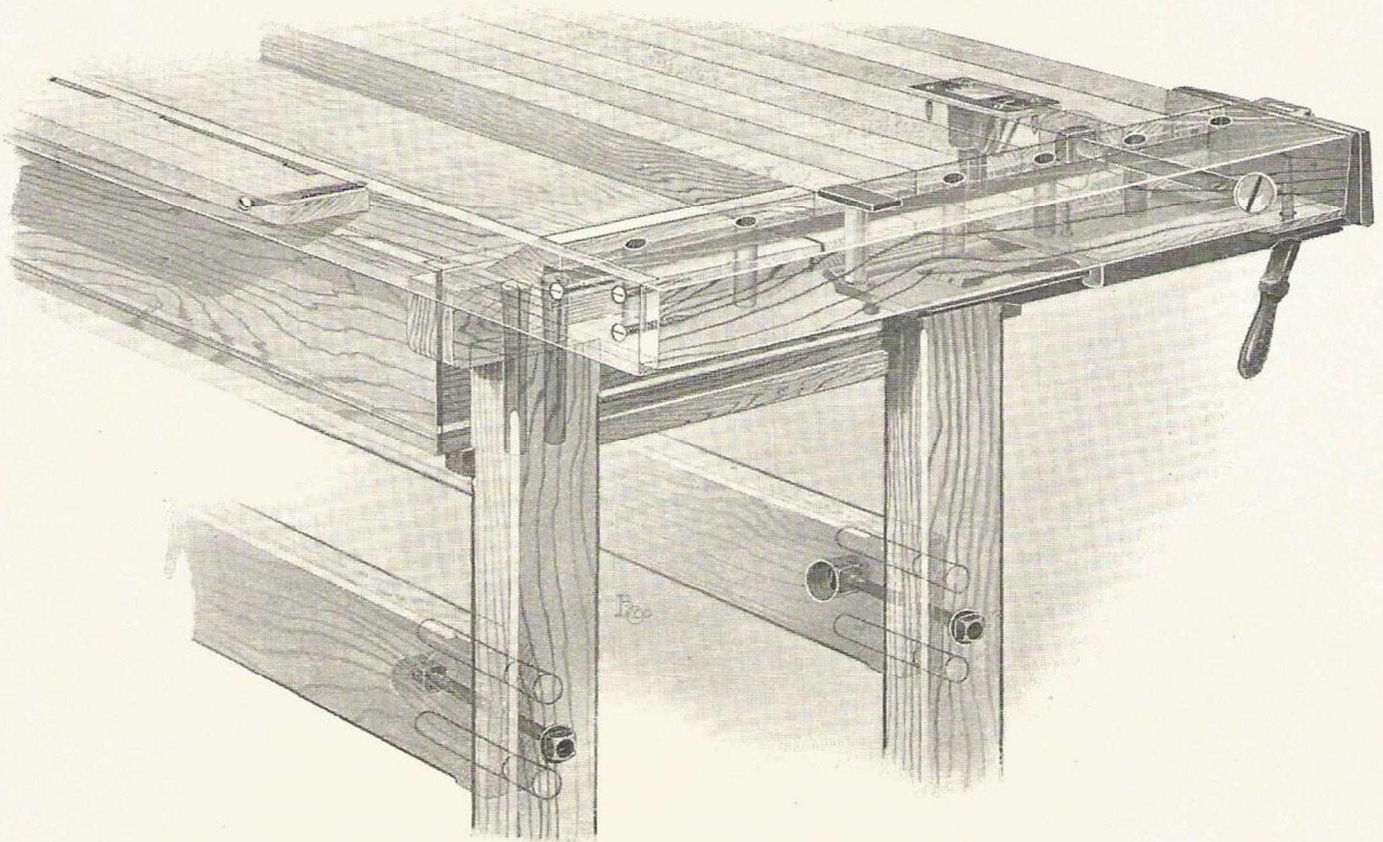
Note manner in which Tool Recess Bottom is let in panel fashioned, and re-inforced on all sides and ends. The tops are attached to the stands by $\frac{1}{2}$ inch lag screws.

These benches are not to be compared with the old fashion type, either in thickness of material, manner of re-inforcing the ends and tool recess, or in vise and clamping efficiency. Nailing, clamping, mortising, etc. may be done effectually on the extreme edges of these tops without unusual noise or jar, which is not the case with the cheap thin top.

An examination of any of our samples will convince you that they will stand for many years the most rigorous and unskilled use, and that the cost is surprisingly near that of short-lived benches with thin tops, wooden vises and wooden bench stops.

Our benches are shipped knocked-down and crated. Easily set up by the insertion of six bolts.

Ask for samples and quantity discounts.



What an Expert Woodworker Sees in Our Bench Construction

THE cost of producing this picture was three-times greater than that of any other shown in this catalogue. We deemed it advisable to assume this expense in order to emphasize the fact that the business end of one of our new improved work benches represents much more in labor and material than the old type benches to which you are accustomed. This type is the development of a long, close personal experience with the requirements and usage to which benches of this character are subject. Our low cost is the result of the latest improved appliances with which our factory is equipped, designed and arranged exclusively for the production of these benches in large quantities. ¶ A sample of any of our benches will be shipped immediately on request of school authorities investigating this subject. ¶ We further agree to pay the freight both ways if, after investigation, our values do not prove to be the best available, or the sample entirely suited to the purpose. This offer will appeal to those who are conscientiously investigating these utilities with the well-fare of the department they are equipping in view. As such, an investment is for years of service, and will determine very largely the progress and character of the work done in such a department.



DENVER MODEL Manual Training Bench

Price with drawers \$10.50

Weight 130 Pounds

Price without drawers \$ 9.25

Weight 115 Pounds

DIMENSIONS: 32 inches high, unless otherwise ordered. Top 42 inches long, 22 inches wide, $\frac{2}{4}$ inches thick. Tool recess 7 inches wide. Tool-rack 30 inches long. Drawers 6 inches high, 22 inches long, 19 inches wide. Fitted with bronze pulls.

We could not make this bench better if we asked double the above price. There are now thousands of our benches in use, and we can almost certainly give you a reference in your own locality.

DENVER PUBLIC SCHOOLS
Manual Training Department, Grades
Milton Clauser, Supervisor

Mr. E. H. Sheldon, Chicago, Illinois
Dear Sir:

Denver, Colo., March 14, 1906

Since we now have 450 of your benches equipped with your rapid acting vises and 138 of your vises on other benches, you might feel interested to know how I like them.

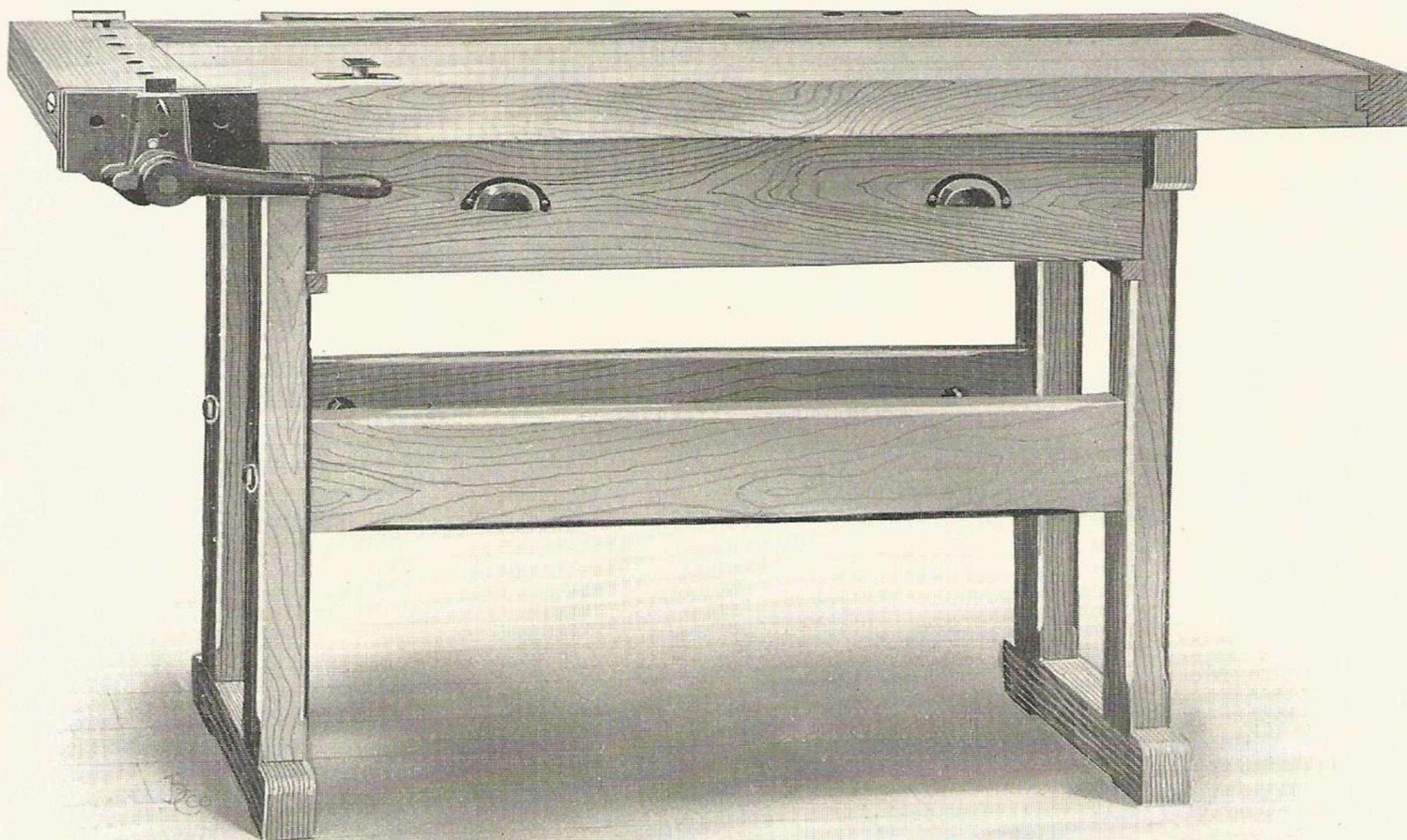
The above were bought as follows:

12 vises	- - - - -	in 1901
24 vises	- - - - -	in 1902
120 benches and vises	- - - - -	in 1903
100 benches and vises	- - - - -	in 1904
95 benches and vises and 2 extra vises	- - - - -	in 1905
72 benches and vises and 2 extra vises	- - - - -	in 1906
60 benches and vises	- - - - -	in 1908
100 vises	- - - - -	in 1907

We have not spent 50 cents for repairs on the above equipment. In one of our shops, equipped with another make of benches having both head and tail vises, one of the vises at every bench was broken within three years, some beyond repair.

Although you never asked me for a testimonial you are at liberty to use this wherever it may do you any good.

Respectfully yours,
Milton Clauser



ALASKA MODEL

Manual Training Bench

Price without drawers \$10.50

Price with drawers \$12.00

Weight 130 Pounds

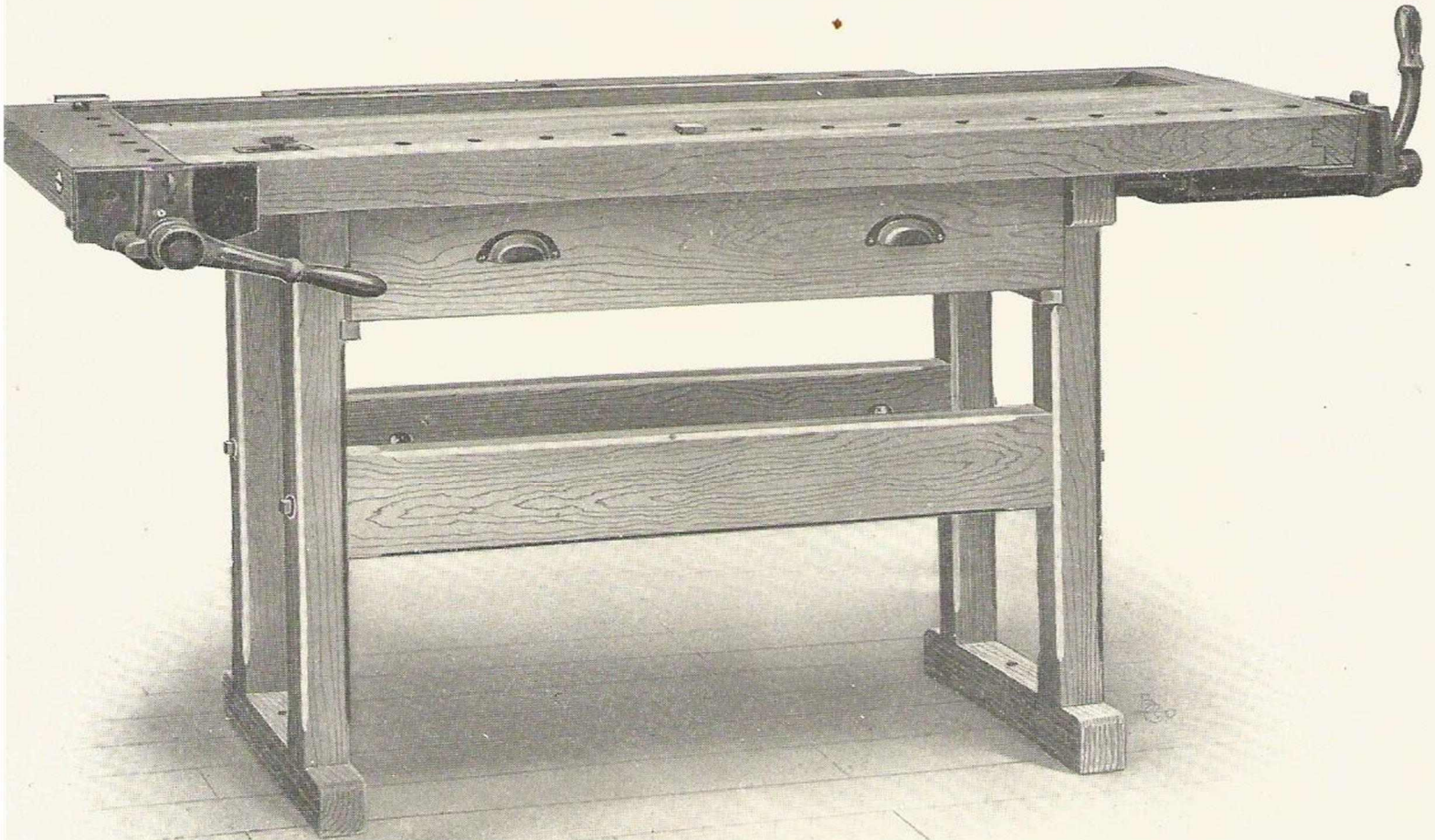
Weight 150 Pounds

DIMENSIONS : 32 inches high. Top 52 inches long; 22 inches wide; $2\frac{1}{4}$ inches thick. Tool recess 7 inches wide. Drawer 6 inches high; 32 inches long; 19 inches wide. Fitted with bronze pulls.

We had the honor during October, 1908, of furnishing 65 of the above benches to the Alaska Division of the Bureau of Education, Dept. of Interior, United States, for use in the native schools of Alaska.

No deviation or modification was asked from our standard type. This selection was made by the chief of this bureau, who, during his investigation of various types, made a careful personal investigation of every feature and process used in the construction of this bench in our factory. The importance of absolute reliability and efficiency in every detail of such a bench will be appreciated when the remoteness of this territory and the cost of transportation is considered. Further, the policy of the Government in matters of this kind is so well known, we feel we could hardly offer greater evidence of the exceptional merit and completeness embodied in this bench.

Every joint is grooved and let in, not stuck on the outside or nailed together. Our line is the development of close personal experience with the usage and requirements of industrial educators, and our success is shown in the splendid indorsements and re-orders they are continually giving us.



OMAHA MODEL Manual Training Bench

Price, with Drawer, \$15.50
Price, without Drawer, \$14.25

Weight, with Drawer, 175 Pounds
Weight, without Drawer, 155 Pounds

DIMENSIONS: 32 inches high. Top 52 inches long; 22 inches wide; $2\frac{1}{4}$ inches thick. Tool recess 7 inches wide; drawer 6 inches high. Fitted with bronze pulls.

This bench is fitted with our No. 3 vise on the side including the wide, bolster and steel dog feature as in our standard benches. It is also fitted with a No. 3 vise on the end, the top being bored opposite No. 3 vise, as shown in cut, and fitted with our standard steel bench dog.

In this bench, we believe, we have the most complete and efficient vise combination possible for school work of any class. The number of duplicate orders that have been placed with us up to the present date shows its popularity.

BOARD of EDUCATION
Office of Superintendent of Instruction

Omaha, Neb., March 6, 1909

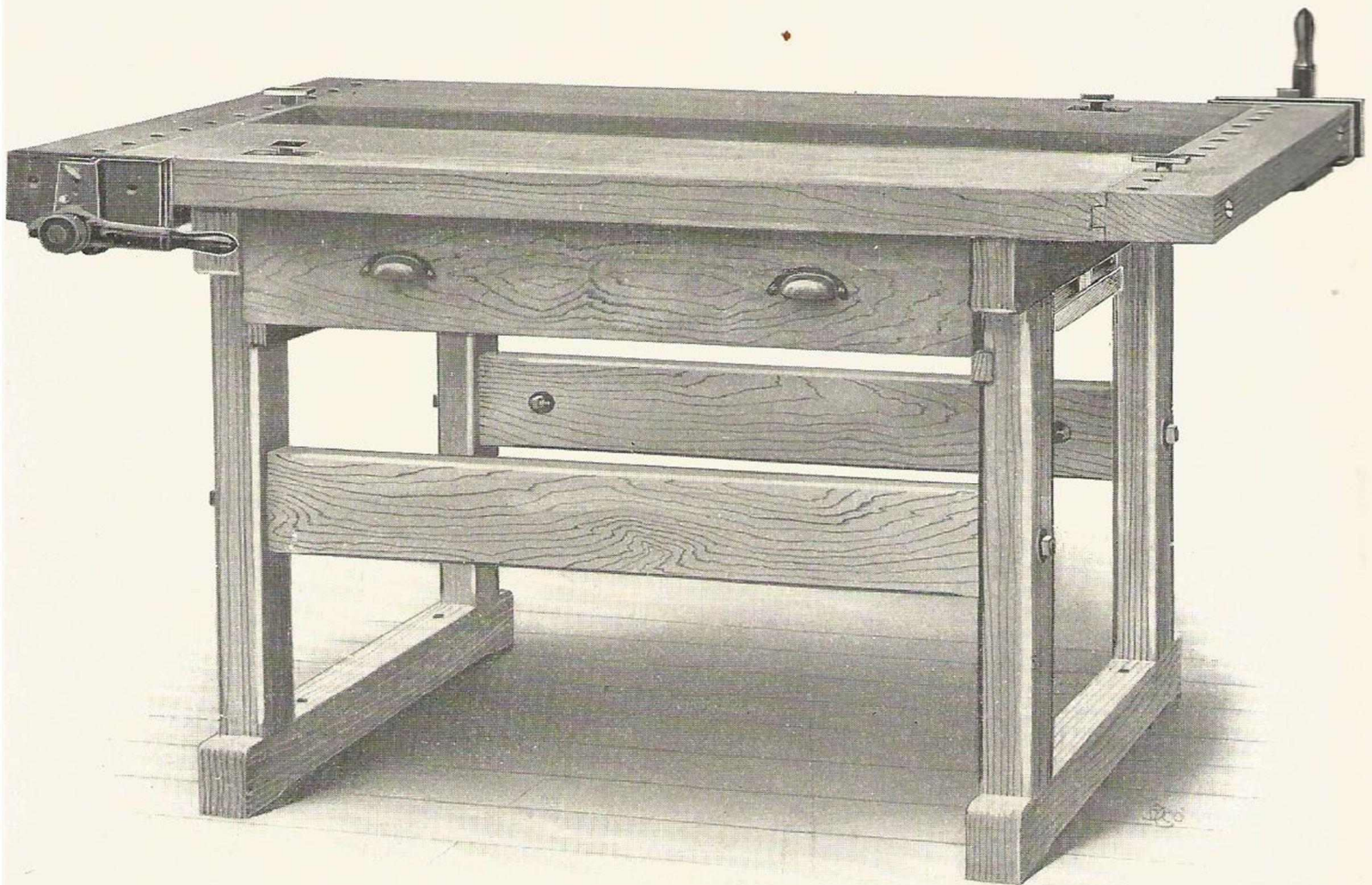
Mr. E. H. Sheldon, Chicago, Illinois

Dear Sir:

I consider the special Manual Training Bench (Omaha Model) which you made for us, as the best manual training bench on the market. We have a large number of them now in use in our manual training shops, four elementary schools, and they are giving perfect satisfaction.

Yours sincerely,

W. M. Davidson, Supt.



FT. WAYNE MODEL Double Manual Training Bench

Price, \$20.00

Weight, 250 Pounds

DIMENSIONS: 32 inches high, unless otherwise specified. Top 52 inches long; 36 inches wide; 2¼ inches thick. Tool recess 8 inches wide. Drawers 6 inches high; 32 inches long; 16 inches wide.

STAND CONSTRUCTION: The stand for this bench is made of extra heavy material thoroughly rigid and exceptionally attractive in appearance.

The wide bolster and tail vise feature in connection with this bench is made exceptionally efficient by carrying the series of holes across the entire width of the top. These fitted with our steel dogs offer a very efficient clamping combination for work on top of this bench, which is designed to accommodate two pupils. Note the manner in which these bolsters are grooved into the main portion of the top and anchored to it by means of two of our special countersunk bolts.

**MANUAL TRAINING DEPARTMENT
Ft. Wayne Public Schools**

E. W. Boshart, Director

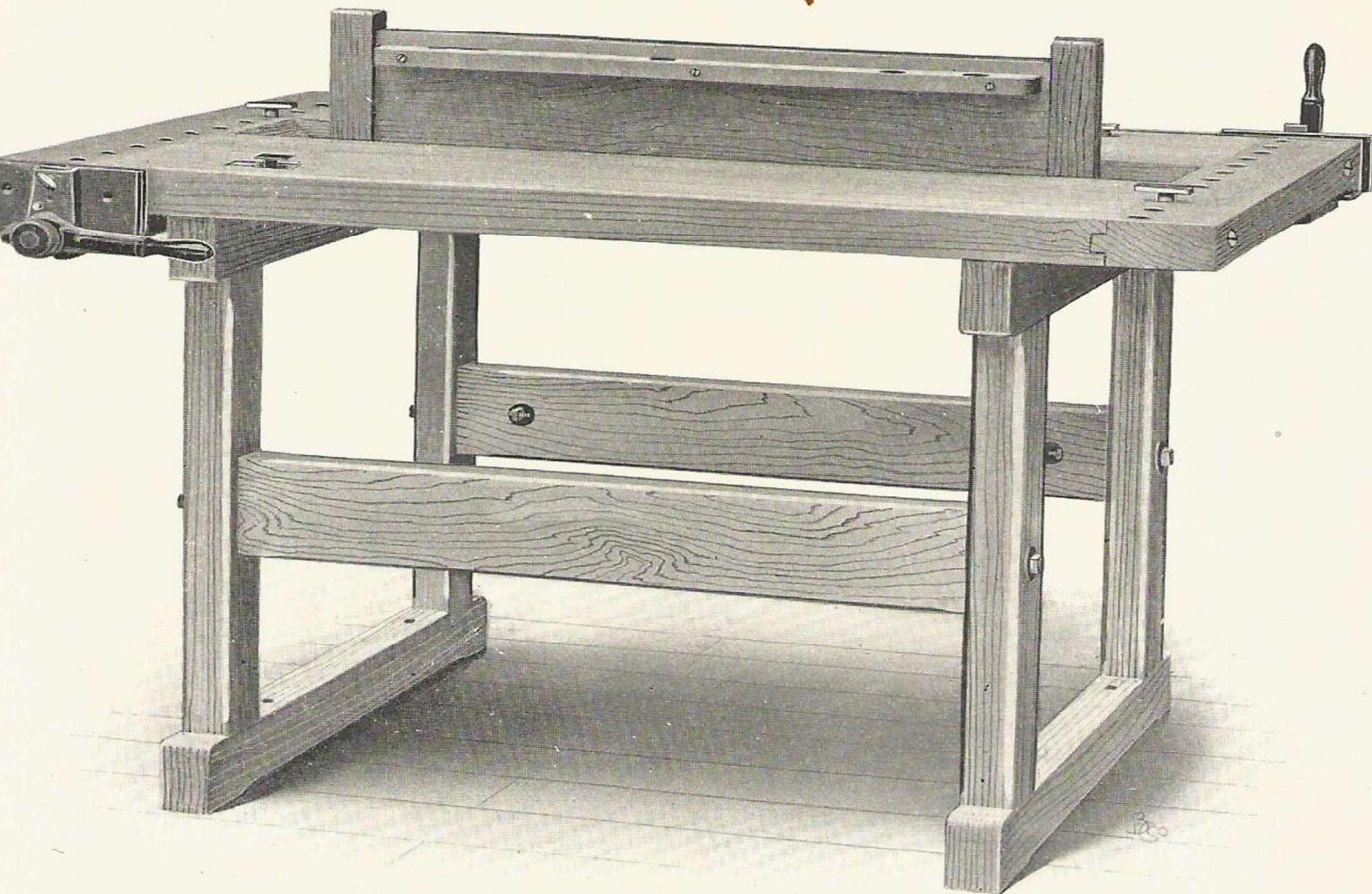
Ft. Wayne, Ind., Feb. 19, 1909

Mr. E. H. Sheldon, Chicago, Ill.

My Dear Mr. Sheldon:

The fifty-five vises which we purchased from you nearly four years ago are still in first class condition and have given satisfaction in every way. These vises have been subject to a very severe test in our high school department where they have been in constant use. We have had no breakages of any kind. On the strength of our success with these we decided to equip one center with your (Ft. Wayne Model) benches and to supply our other centers for which we had good benches with your No. 3 vises. They are good goods, and it is a pleasure to work with them.

Yours for success,
Edward W. Boshart



ST. PAUL MODEL Manual Training Bench

Price, \$17.50

Weight, 200 Pounds

DIMENSIONS AND CONSTRUCTION: Similar to our Ft. Wayne Model Bench, the difference being in provision and for the accommodation of general tools. We provide with this bench the paneled tool rack on top of bench, omitting the drawers.

The above paneled frame is fitted with one of our standard tool racks on either side.

BOARD of SCHOOL INSPECTORS
Department of Manual Training
Hans W. Schmidt, Supervisor

E. H. Sheldon, Chicago, Ill.

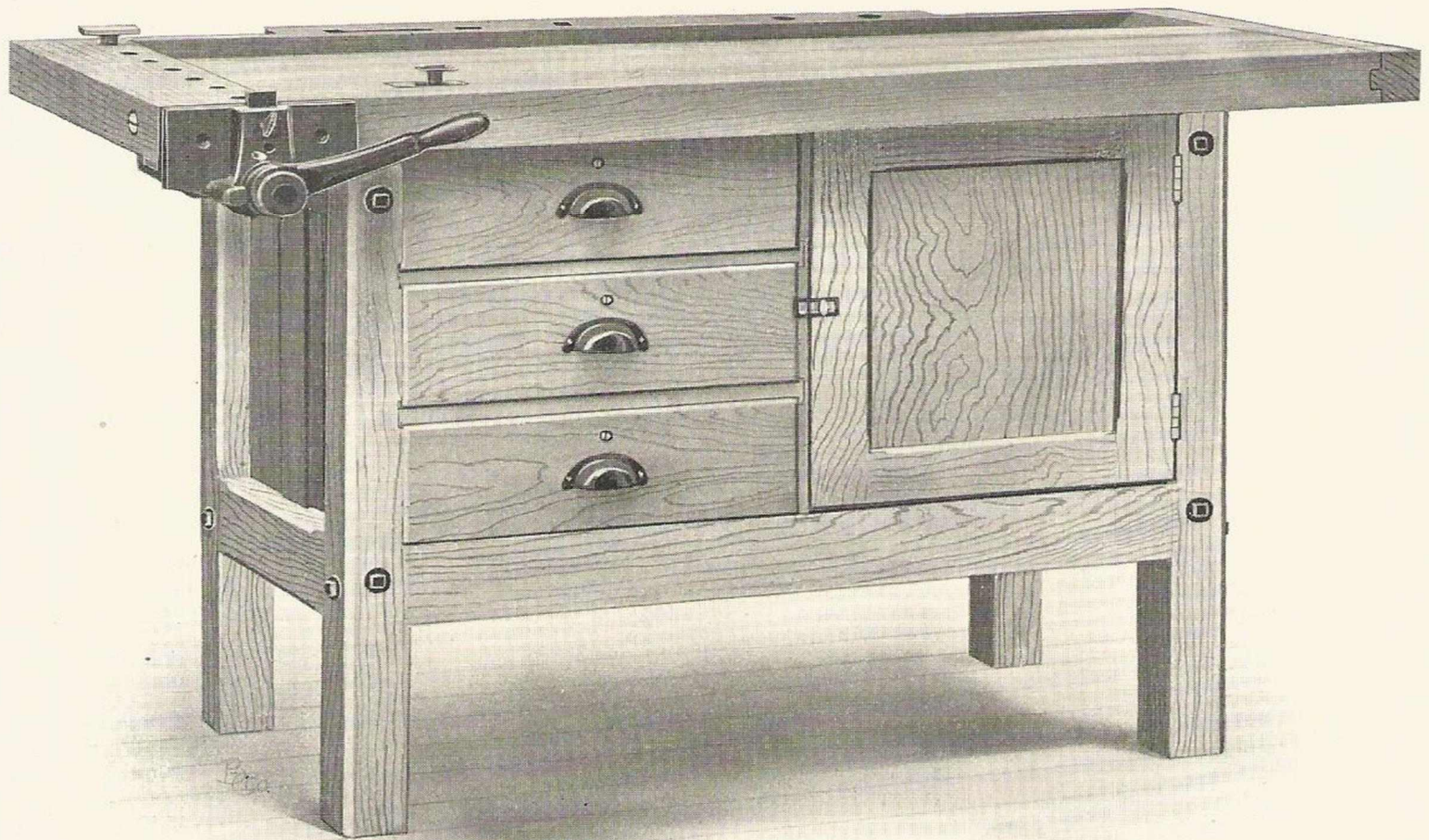
St. Paul, Minn

Gentlemen:

I wish to say that your benches (St. Paul Model) have proven very satisfactory, especially the last order sent us, which have the wide end bolster. We have subjected the benches to extremely hard usage and they have stood up very well, indeed. The vises have been a success from every standpoint and it is surprising what a firm grip may be obtained with them. What I like about them, especially, is their lightness combined with strength, thus making the vises rapid and easily handled without in the least sacrificing the strength of the grip. Another feature which appeals to me is that the lever is always in a working position and ready for immediate use.

Sincerely yours,
Hans W. Schmidt

FOLDER
DRAW OUT



ELGIN MODEL

Manual Training Bench

Price, \$16.50

Weight, 175 Pounds

DIMENSIONS: Top 52 inches long; 22 inches wide; 2¼ inches thick. Tool recess 7 inches wide. Private lockers 18½ inches long; 5 inches high; 17 inches deep. General tool cupboard 13 inches long; 18 inches high; 17 inches deep.

TOP CONSTRUCTION: See page 7.

FRAME AND DRAWER CONSTRUCTION: See page 17.

SINCLAIR J. WORK
Supervisor of Manual Training

Elgin, Illinois, Feb. 26th, 1909

E. H. Sheldon Co., Chicago, Ill.

Dear Sirs:

As a bench for pattern making in high school work our Bench (Elgin Model) meets all requirements. It is neat, compact, strong and rigid, and as to workmanship and finish it is all that could be desired. We have used the Sheldon Rapid Acting Vise more than five years in our high school work and so far not a single part of any of them has had to be replaced, and they are still working satisfactorily.

Sincerely yours,

Sinclair J. Work,

Supervisor of Manual Training

FOLDER
DRAW OUT



PERFECTION MODEL Manual Training Bench

Price, \$18.00

Weight, 180 Pounds

DIMENSIONS: 52 inches long; 22 inches wide; 2¼ inches thick. Tool recess 7 inches wide. General tool drawer 32 inches long; 5½ inches high; 17 inches deep. Private Lockers 15½ inches long; 5 inches high; 17 inches deep. Legs 2½ x 3 inches. Rails 3½ inches wide.

TOP CONSTRUCTION: See page 7.

FRAME AND DRAWER CONSTRUCTION: See page 17

Importance and Purpose of Private Lockers

In our best schools the average grade pupil requires in his first lesson forty-five minutes to sharpen a plane blade from ordinary dullness to a razor edge. His interest is keen throughout the entire operation. The edge thus produced is his, and his rights in it should be protected. Give it to another pupil to use, and dull, and experience shows he loses interest in it at once.

A standard 2-inch plane blade costs less than 25c and will last a school, years. The commercial value of our upper grade boy's time is easily worth 10c per hour. The value of his products to an employer is worth much more than that. Is it pedagogical common sense or economy to so greatly reduce such a pupil's efficiency to accomplish the saving of the small outlay necessary for these inexpensive edge tools, and some suitable place to keep not only the results of his work, but tools with which he accomplishes it? The private locker is essential to best results in work of this character. The most logical and economical place for it is in connection with the bench. Our arrangement, construction, and price is the development of years of experience, a close association with these requirements, and the most improved manufacturing facilities. Our costs are the lowest at which this class of work can be produced, and be of a thoroughly permanent and efficient character. Experienced buyers have found that home made substitutions are a delusion, and refuse to pay for the substitutor's experience.



SIOUX CITY MODEL Manual Training Bench

Price \$20.00

Weight 200 Pounds

DIMENSIONS: Top 52 inches long; 22 inches wide; $2\frac{1}{4}$ inches thick. Tool recess 7 inches wide. General tool drawer, 32 inches long; $5\frac{1}{2}$ inches high; 17 inches deep. Private lockers $15\frac{1}{2}$ inches long; 5 inches high; 17 inches deep. Legs $2\frac{1}{2}$ inches x 3 inches. Rails $3\frac{1}{2}$ inches wide.

TOP CONSTRUCTION: See page 7.

FRAME AND DRAWER CONSTRUCTION: See page 17.

HIGH SCHOOL
Department of Manual Training
R. C. Kelly, Supervisor

Sioux City, Iowa, Feb. 20, 1909.

E. H. Sheldon Co., Chicago, Ill.

Dear Sirs:

I wish to congratulate you upon the most excellent manual training benches (Sioux City Model) which you constructed for the Sioux City High School. We have had many expressions of admiration regarding them from those who are competent to judge good construction and first-class workmanship. Your No. 3 vises have met every demand made on them and seem to us to admirably meet the requirements for a rapid-acting vise on manual training benches.

Yours truly,

R. C. Kelly,

Supervisor of Manual Training



MINNEAPOLIS MODEL Manual Training Bench

Price \$27.00

Weight 275 Pounds

DIMENSIONS: 32 inches high. Top 60 inches long; 24 inches wide; $2\frac{3}{4}$ thick. Tool recess 7 inches wide. General tool drawer, $5\frac{1}{2}$ inches high; 38 inches long; 20 inches deep. Private lockers, 5 inches high; $16\frac{1}{2}$ inches long; 20 inches deep. Paneled tool rack $3\frac{1}{4}$ inches long; 7 inches high. Legs 3 inches square. Rails $3\frac{1}{2}$ inches wide.

TOP CONSTRUCTION: See page 7.**FRAME AND DRAWER CONSTRUCTION:** See page 17.

BOARD OF EDUCATION

Minneapolis, Minn.

E. H. Sheldon Co., Chicago, Ill.

Gentlemen:

Replying to your inquiry concerning the 122 cabinet benches (Minneapolis Model) which you recently furnished for our high schools, I am pleased to say that we are not only satisfied with the benches but also with the prompt and courteous manner in which you handled our order. I will further add that my recommendation of your bench to our board was made strictly on the basis of merit and you "won out" in the face of sharp competition simply because you were able to demonstrate that you had what we wanted and could, in our judgment, give us the greatest value for the money.

Regarding your vises I have no reason at the present writing to retract or modify, unless to make stronger, any thing I have previously said.

Very respectfully,

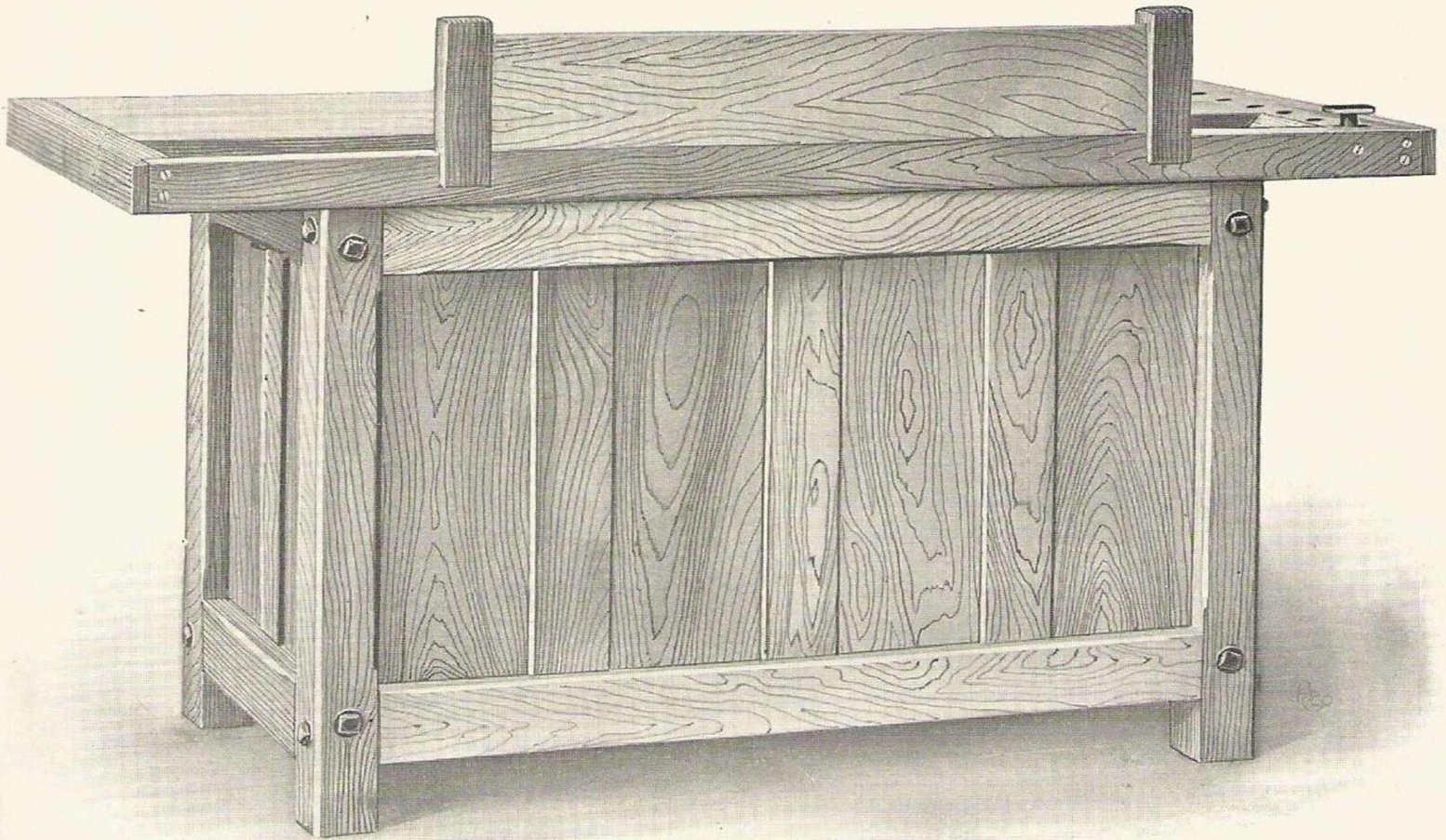
J. E. Painter,

Supt. Manual Training, Public Schools.

THIS IS WHAT HE SAID PREVIOUSLY:

"Since receiving your sample bench I have made a test of vises in the presence of a number of my teachers, four well-known makes of vises figuring in the test, and without question the "Sheldon" had the best of it all the time. In strength of grip and ease of operation it has no equal within my knowledge. Another feature that is worthy of consideration is that the lever is always present ready for use. This cannot be said of the wooden handled vise."

This test had in view the placing of an order re-equipping the five High Schools of Minneapolis; the above bench being selected.



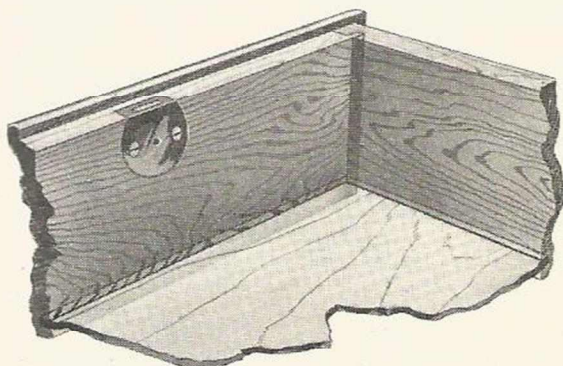
Construction Views

Above cut shows back panel and frame construction of our cabinets. Paneling made of clear kiln-dried birch. Frame clear kiln-dried maple, artistically chamfered, guaranteed against shrinkage and cracks.

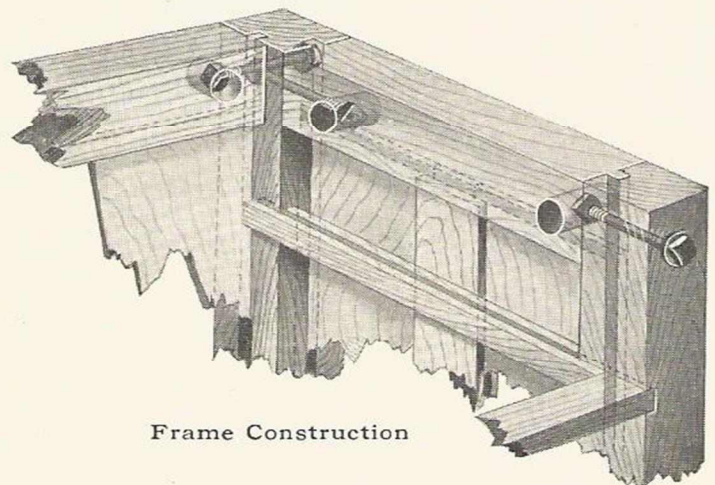
FINISH: These cabinets are filled, rubbed down and shellaced.

FRAME CONSTRUCTION: Reference to the accompanying cut shows substantial manner of constructing our frames. The bolts reinforcing the frame joint makes these joints absolutely rigid and indestructible. Note, also, the manner of mortising the drawer slides and paneling into the frame. No degree of straining, shrinkage, or swelling can cause these frames to loosen or come apart.

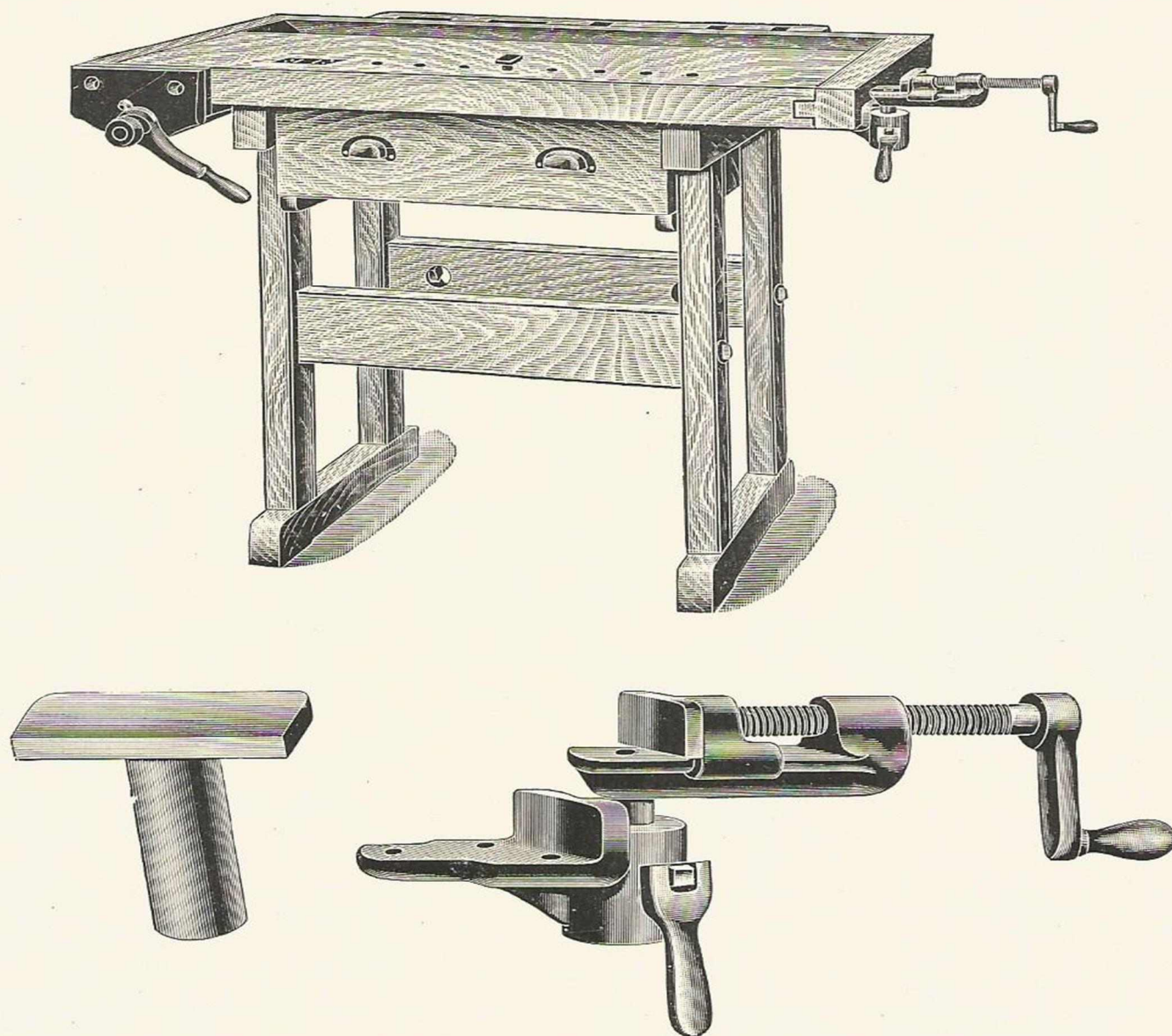
DRAWER AND LOCK CONSTRUCTION: Reference to the accompanying cut shows the substantial tongue and grooved joints used in attaching our drawer fronts and sides, also the substantial flange on our drawer fronts, eliminating any possibility of picking or prying open locks. Our drawer bottoms are made from one piece $\frac{3}{8}$ -inch gum wood, grooved in all sides. Our locks are Yale and Towne's circular boxed type with screws passing through entire box. These locks have heavy bolt and key, and can be master-keyed at an additional cost of fifteen cents per lock.



Drawer and Lock Construction



Frame Construction



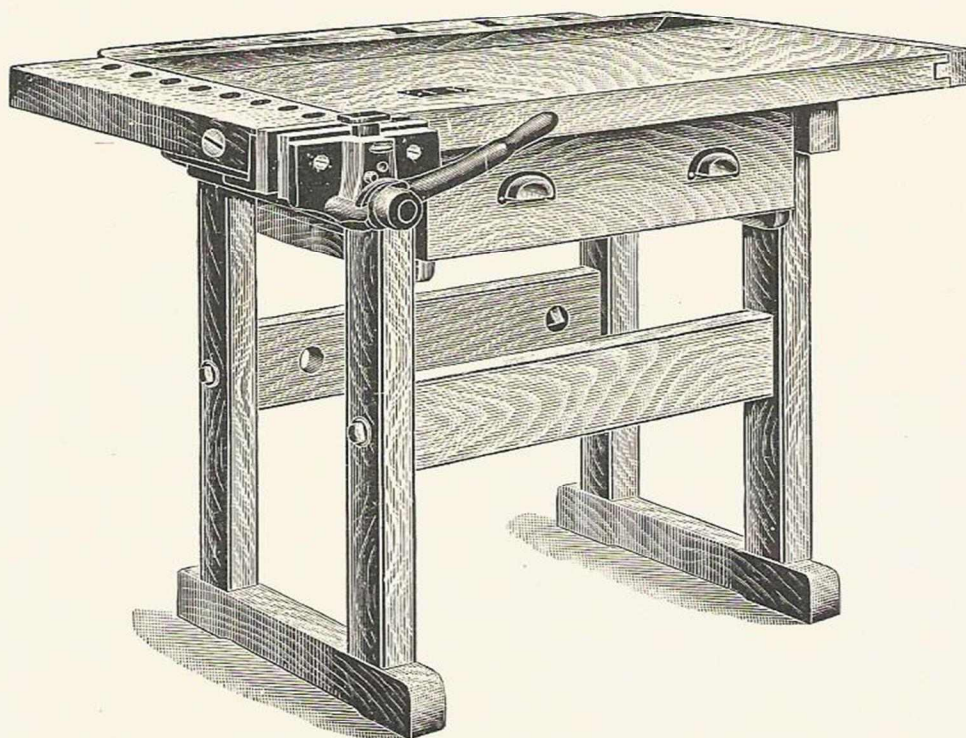
Patented Swivel Tail Vise

Price with Bench Dog, \$1.75

Sliding head $\frac{3}{4}$ -inch high, 3 inches long, held true and rigid by T slide. Screw 7 inches long with square thread cut from $\frac{5}{8}$ -inch cold rolled steel, crank malleable iron, sliding head can be raised from below to $\frac{3}{4}$ -inch above surface of bench top, or can be swung around against each end of bench, getting it entirely out of the way.

We furnish with this vise a bench dog with steel top of $\frac{1}{4}$ -inch steel, 1 inch wide and $2\frac{1}{2}$ inches long, fitted to $\frac{3}{4}$ -inch cold rolled steel stem, all nicely polished. This tail vise with its broad surface for holding work, and easy means of adjustment, will commend itself to those at all familiar with tail vise requirements.

We invite you to test it with any kind of tail vise of any price. It can easily be attached to any style of bench tops. Holes for dog $\frac{3}{4}$ -inch diameter. Indispensable for planing table tops, chair seats, etc. Will pay for itself in a very short time.



Special Vise Dog and B Facings

(Per above illustration)

Price, \$1.00

Above cut shows our special Vise Dog and B Wood Facings. Vise jaws are let in below bench top and covered with wood facings, eliminating any possibility of dulling edge of tools on the iron jaws. The vise dog is fitted with polished steel top $2\frac{1}{4}$ inches long, 1 inch wide. The bench top is bored for and fitted with corresponding steel dog with steel stem. These offer broad rigid bearing surface that can be adjusted to thin or thick material, and greatly lessens the tendency to mar the edges of the work being held.

The dog on the vise jaw when not in use can be lowered below the wood facings, which re-enforces the facings and gets out of the way.

This combination will commend itself to those doing carving, construction, cabinet, or lower grade work.

Plain Maple Vise Facings attached, per set \$.25.

These facings are made from clear maple $\frac{5}{8}$ inch thick, are nicely sanded and oil finished, screwed to the vise in a thoroughly substantial manner.

THE MINNEAPOLIS PUBLIC SCHOOLS

Chas. M. Jordan, Supt.

J. E. Painter
Supervisor Manual Training

E. H. Sheldon & Co., 72-86 May St., Chicago, Ill.

Gentlemen:—Last fall we opened five new centers for seventh and eighth grade Manual Training. After very careful investigation of several of the best Benches on the market our Board decided in favor of your No. 6B. We accordingly purchased 150 of these Benches equipped with your No. 3 Vise. We also purchased 50 vises for use on our old benches. After six months' test I am prepared to say that we are satisfied with both Bench and Vise. They meet the requirements of this class of work better than any bench we have ever tried, and when we open more centers, as we doubtless will, I shall strongly recommend this same Bench and Vise.

Respectfully yours,

J. E. Painter

Some Re-orders on Benches and Vises

Our Most Convincing Page

SEATTLE, WASH. 6 orders aggregating 524 No. 3 Vises and Bench Stops; 12 dozen Clamps ordered in 5 years.

MILWAUKEE, WIS. 178 Benches complete and 87 Vises, in 8 years.

KANSAS CITY, KAN. 4 orders aggregating 64 Benches and 16 Vises, in 3 years,

KANSAS CITY, MO. 4 orders aggregating 240 Vises, 32 Minneapolis Benches for High School, and 96 grade Benches for grade work, in 4 years.

CINCINNATI, OHIO, and suburbs. 2 orders aggregating 170 Benches complete, in 3 years.

CLEVELAND, OHIO, and suburbs. Miscellaneous orders aggregating 94 Benches complete and 600 Vises, in 9 years.

SPRINGFIELD, MASS. Miscellaneous orders aggregating 120 Vises, in 8 years.

DENVER, COLO. 9 orders aggregating 448 Benches complete and 140 additional Vises, in 9 years.

TOPEKA, KAN. 3 orders aggregating 150 Benches complete and 48 Vises, in 4 years.

NASHVILLE, TENN. 5 orders aggregating 100 Vises and 50 Benches, in 6 years.

LINCOLN, NEBR. 5 orders aggregating 63 Benches and 11 Vises in 4 years.

ST. PAUL, MINN. 6 orders aggregating 51 double Benches and 24 Vises, in 2 years.

MINNEAPOLIS, MINN. 4 orders aggregating 72 Vises and 324 Benches complete, in 2 years.

SAN ANTONIO, TEX. 3 orders aggregating 75 Benches complete and 24 Vises, in 4 years.

ST. JOSEPH, MO. 2 orders aggregating 16 Benches complete and 56 Vises, in 1 year.

TRENTON, N. J. 3 orders — 85 Benches and 24 Vises, in 2 years.

ELGIN, ILL. 3 orders aggregating 24 Vises and 70 Benches, in 5 years.

SUPERIOR, WIS. 4 orders aggregating 44 Benches and 6 Vises, in 4 years.

OTTUMWA, IOWA. 4 orders aggregating 76 Benches, in 2 years.

OMAHA, NEBR. and SOUTH OMAHA. 3 orders aggregating 116 Benches, in 2 years.

GALESBURG, ILL. 2 orders aggregating 40 Benches, in 4 years.

FT. WAYNE, IND. 2 orders aggregating 56 Vises and 12 double Benches, in 4 years.

SAGINAW, MICH. 2 orders aggregating 24 double Benches, in 4 years.

LOUISVILLE, KY. 3 orders aggregating 70 Benches, in 4 years.

ALASKA BUREAU of EDUCATION, Dept. of Interior, Washington, D. C. 1 order — 65 Benches.

PASADENA, CALIF. 2 orders aggregating 40 Benches, in 3 years.

SAN JOSE, CALIF. 2 orders aggregating 25 Benches, in 2 years.

RACINE, WIS. 3 orders aggregating 75 Vises and Bench Stops; 26 Benches, in 3 years.

Some of Last Year's Re-Orders for Lathes

Board of Education, Seattle, Wash.

24 Lathes	1906
12 Lathes	1908

Board of Education, S. Bend, Ind.

20 Lathes	1906
1 Teacher's Lathe	1908

Board of Education, Elgin, Ill.

Sample Lathe	1906
20 Lathes	1908

Board of Education, Fargo, S. Dak.

3 Lathes	1905
7 Lathes	1908

Board of Education, E. Chicago, Ind.

4 Lathes	1907
4 Lathes	1909

STATE REFORMATORY SCHOOL, Hutchinson, Kansas

3 Lathes	1906
2 Lathes	1908

Board of Education, Olean, N. Y.

6 Lathes	1907
4 Lathes	1908

Board of Education, Dunkirk, N. Y.

2 Lathes	1908
2 Lathes	1909

“IT is much easier to follow than to lead, and it is easier to accept the result than to bring it about. We think the appellant's Lathe marks an advance in the art, that its construction involves invention, and that it should be protected by patent allowance.”

Extract from decision allowing patent on our Lathe:
United States Court of Appeals, District of Columbia

OUR present type of Lathe represents our greatest development. We had practically no precedent to guide us in our earlier construction. Experience has enabled us, however, to develop in our present type of machine one that is boy and fool proof, and one with which we invite comparison so far as construction, efficiency and appearance is concerned, with any other type of machine at any price. As an example of the popularity these machines are attaining, we would cite the above equipment at Seattle. The popularity of the original outfit at that place resulted in these machines being purchased in the second High School at Seattle, Wash., High School at Portland, Ore., Spokane, Wash., N. Yakima, Wash., Walla Walla, Wash., Snohomish, Wash., and Van Couver, B. C.

Improved Patent Speed Lathes

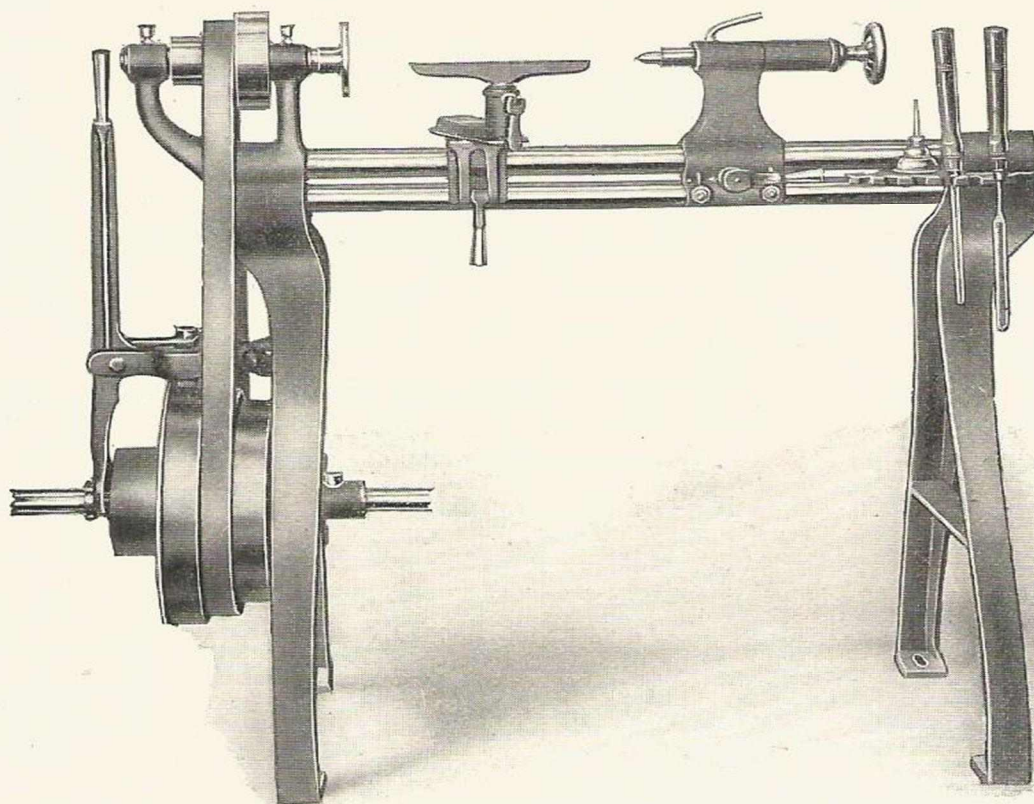
Speed of Main Shaft, 400 R. P. M.

No. 1 Swings 11 x 26 inches; weighs 300 pounds; takes 1½-inch belt.

Price, complete with shaft and belt, \$42.00

No. 3 Swings 11 x 36 inches; weighs 330 pounds; takes 1½-inch belt.

Price, complete with shaft and belt, \$48.00



FEATURES—Polished steel bed bars, cast by welding process into frame. Face plate with screw-center. Movable Tool Rack for ten tools and oil can, spur centers, and face plate. Tail stock accurately reamed and milled from solid metal. Tool rest polished. Saddle and tool rest slide accurately, machined on all bearing surfaces. Saddle clamping block, steel with lock nut adjustment. Small cone turned inside and out and polished. Steel spindle 1-inch bearings. No. 2 Morse taper cup and spur center, $\frac{7}{16}$ -inch hole through spindle with rod to drive out spur centers. Boxes babbitted with special frictionless hard babbitt, adjustable.

See cut and description of improved clutch and brake, page 14.

Remember, we have eliminated the old annoyances of belt-shifting, overhead oiling, and belt-slipping, overhead noise, overhead vibration, overhead jar, overhead dirt, the obstruction of light and view of the shop.

Schools which have attempted to run shafting and belting beneath the floor of a classroom have almost invariably found it impracticable and made the classroom untenable.

Our experience has enabled us to eliminate the weak points of our early construction. We have during the past year more than doubled the strength and rigidity of these machines. We have spared no expense in improving, re-inforcing and strengthening every feature and adjustment.

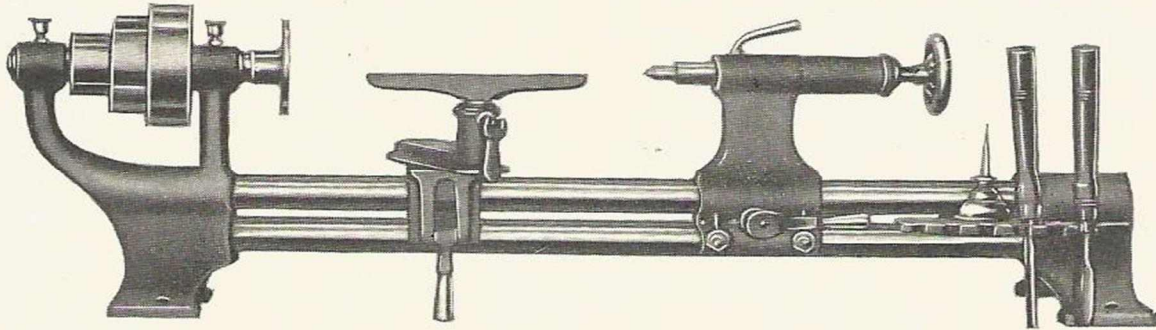
Our present output involves the very highest standards of materials and methods of construction in every detail. Our patented process of constructing the bed, recently confirmed by the United States Appellate Court of the district of Columbia, alone enables us to produce this machine at the price we ask for it. This process eliminates fully one-half the machine work necessary on the old style of construction, and gives us a rigidity, degree of accuracy, and ease of manipulation, on which we urge comparison with any lathe at any price.

We urge prospective purchasers to let us ship a sample with short shaft and outer bearing for test and inspection, and return it at our expense if it does not prove to be the best value obtainable.

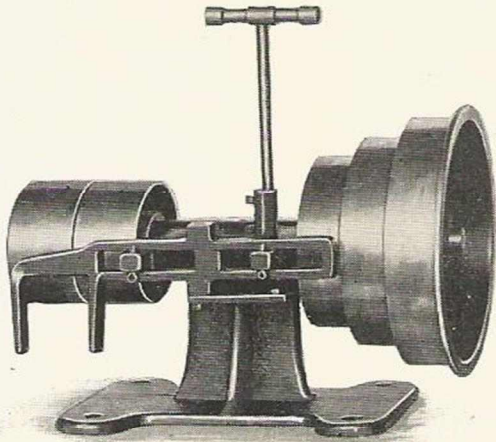
New Patented Bench Lathes

No. 1A. Price, with countershaft \$35.00

No. 3A. Price, with countershaft \$40.00



Above Lathes correspond in size and construction with our No. 1 and No. 3 Lathes, respectively. Our patented process for making these beds greatly reduces the cost of constructing these machines, making the price at which they are sold possible. For speed, lathe efficiency, appearance, and convenience, we urge comparison with lathes of any cost and will back our claims by shipping samples to prospective buyers for equipments on terms satisfactory to them.



Countershaft

Price, \$9.00. Weight, 40 pounds. Speed, 600 R. P. M.

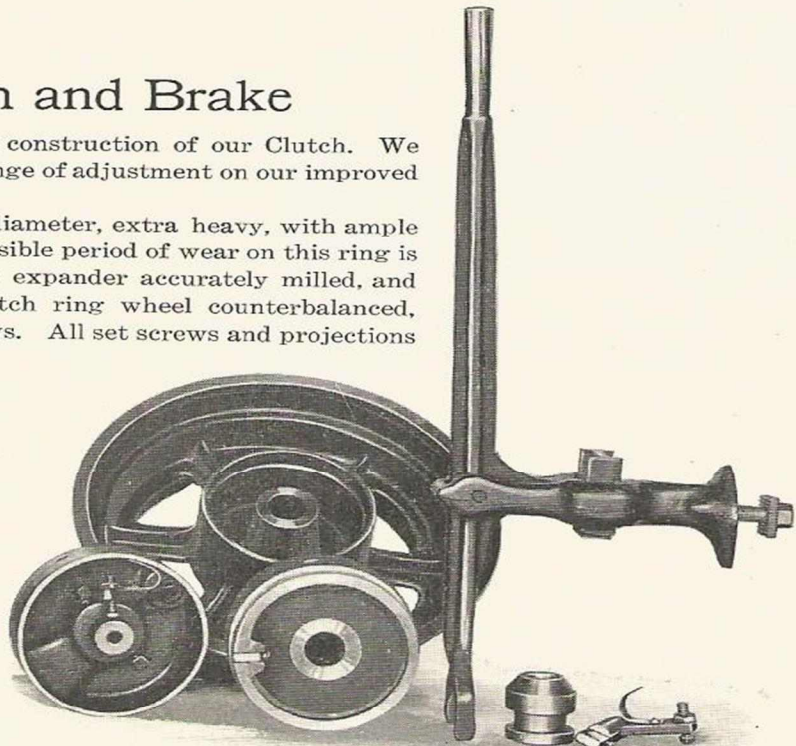
Accompanying cut shows Counter Shaft adapted for our Lathe, to be used where this method of driving the Lathe is desirable. The cone steps are $1\frac{1}{8}$ inches by 7, $8\frac{1}{2}$ and 10 inches. The tight and loose wheels are $2\frac{1}{4}$ by 5 inches, the loose wheel being fitted with bronze self-oiling bearing. The belt-shifter may be adjusted for either straight or crossed belt. It is operated by means of a rod and handle hanging convenient to the lathe. This Countershaft is easily installed. It is unexcelled in simplicity and neatness of appearance.

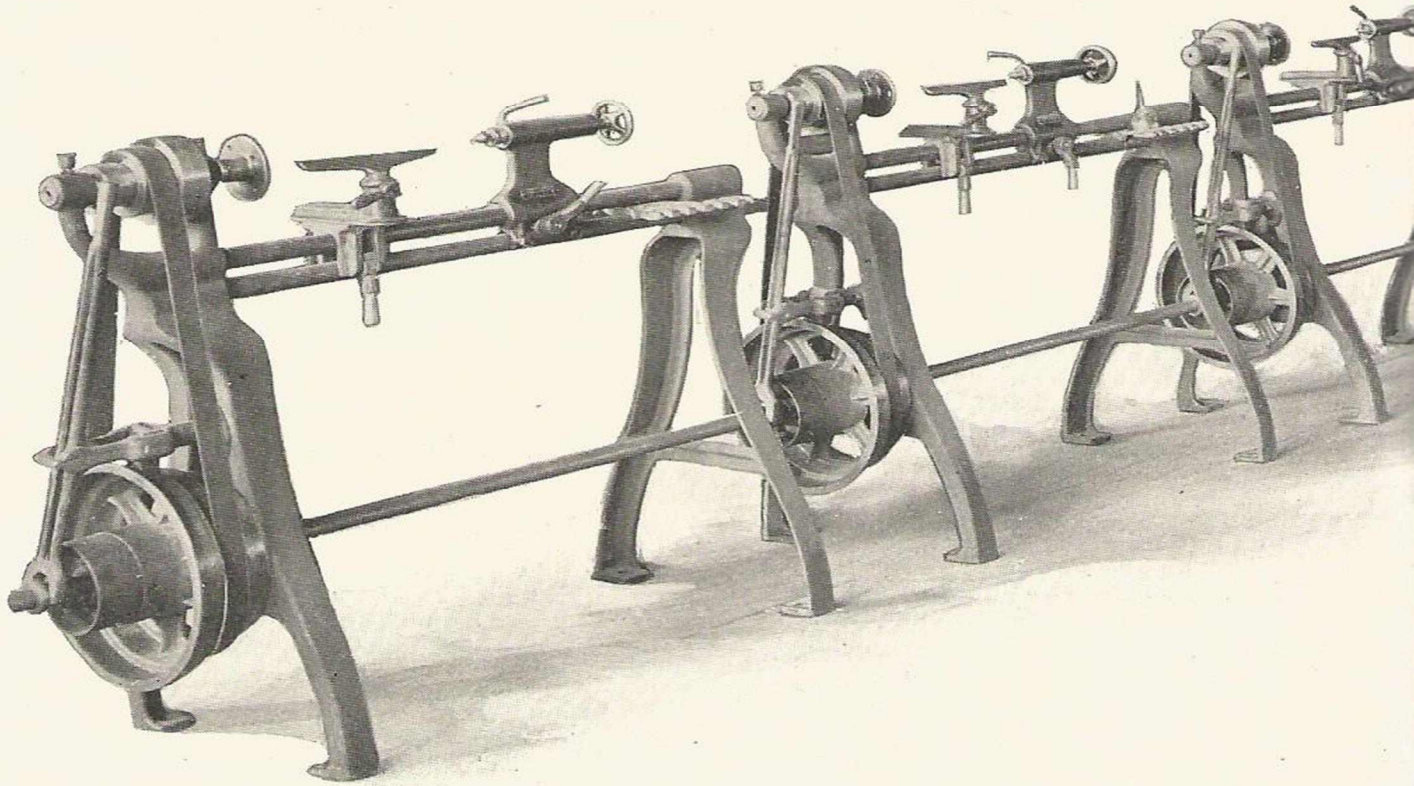
Improved Clutch and Brake

We call attention to the extra heavy construction of our Clutch. We have more than doubled its strength and range of adjustment on our improved lathes.

FEATURES - Expansion ring 6 inches in diameter, extra heavy, with ample clearance when released. The only possible period of wear on this ring is during the starting period. Steel ring expander accurately milled, and held down by retaining spring. Clutch ring wheel counterbalanced, secured to shaft by two heavy set screws. All set screws and projections protected by safety flange covering. Bearing of main clutch wheel 6 inches long, provided with oil or grease cup, as desired. Clutch lever bracket extra broad base, and heavy cap screw locked in position by a steel ratchet, affording ample adjustment, and eliminating any possibility of its working down and wearing on the expanding cone, or becoming loosened by excessive strains on the brake.

This combination further eliminates any possibility or cause for wear on the expanding cones. Brake shoe is metal with leather facing.





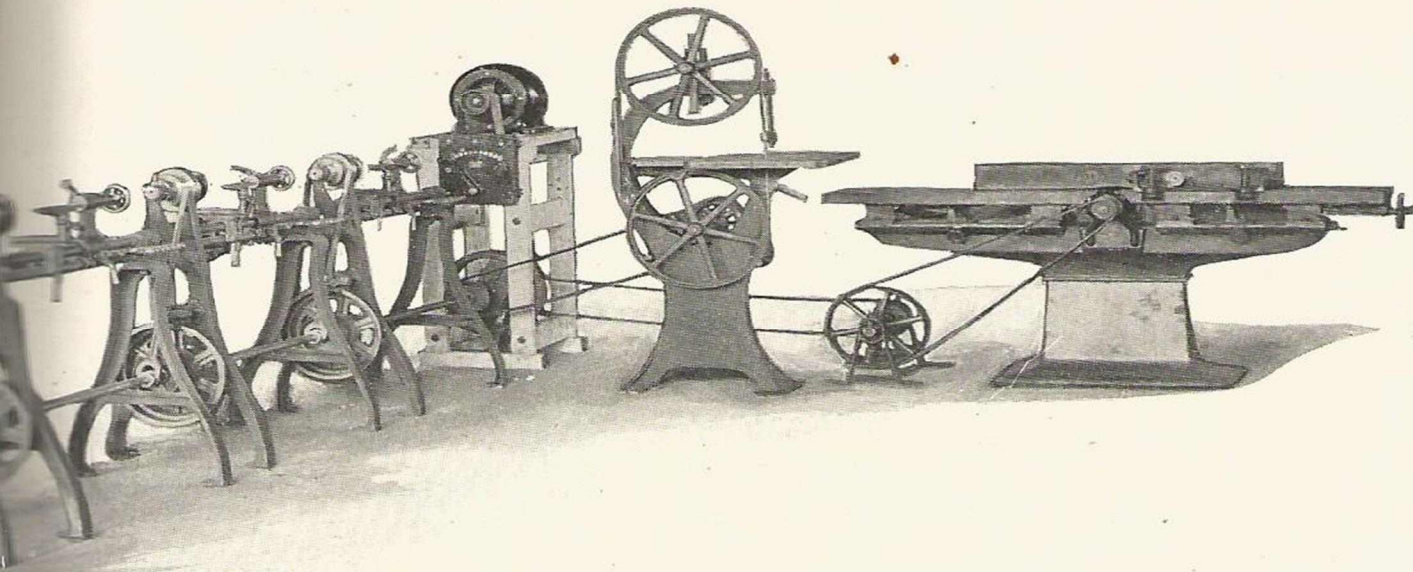
Our Model High School Wood Machine Equipment

Price F. O. B. Chicago, \$600.00

FEATURES—Six No. 1 Lathes complete with shafting and belt; one 5-horse power Steel Frame Direct Current Motor for 110 or 220 volts, mounted on our special motor stand, fitted complete with switch and starting box; one 26-inch Band Saw complete with two saws; one 8-inch Hand Jointer; one self-oiling Double Brace Floor Stand; Drive Pulleys and Belt connections complete.

DESCRIPTION AND ARRANGEMENT—Above cut shows six of our No. 1 Lathes occupying actual floor space of 2x24 ft., driven by a 5-horse power Motor mounted on our special motor stand. In connection with this motor stand we provide a self-oiling floor stand to support the shaft next to the pulley, relieving the Lathe of the strain and vibration of the drive belt. Drive wheels for the Band Saw and Jointer are placed as near to the floor stand as possible. This brings the exposed belts together, making it easy to box them in, eliminating any possibility of accident from this source.

A glance at the illustration will impress the reader with the unusual compactness, convenience, efficiency and economy of this outfit. It can be installed near a wall and in the corner of any bench room, occupying very little space, placed on any kind of a floor and under any kind of a ceiling, beneath or adjoining class-rooms of any character without disturbing them with belt vibration and noise. The bearings of the main shaft are adjustable vertical and horizontally, making the installation of the Lathes extremely simple and inexpensive. All revolving parts are protected by safety flanges, eliminating any possibility of accident, besides saving a very great expense necessary in the cost and installation of the



overhead driving system. It, also, brings all parts within easy reach of the operator for care and adjustment, and greatly simplifies belt shifting, and makes possible our attractive brake feature which applies when clutch is released, greatly facilitating the starting and stopping of the machine.

These machines can be easily installed on cement floors with the use of expansion shields on lag screws. We recommend this method be used where possible.

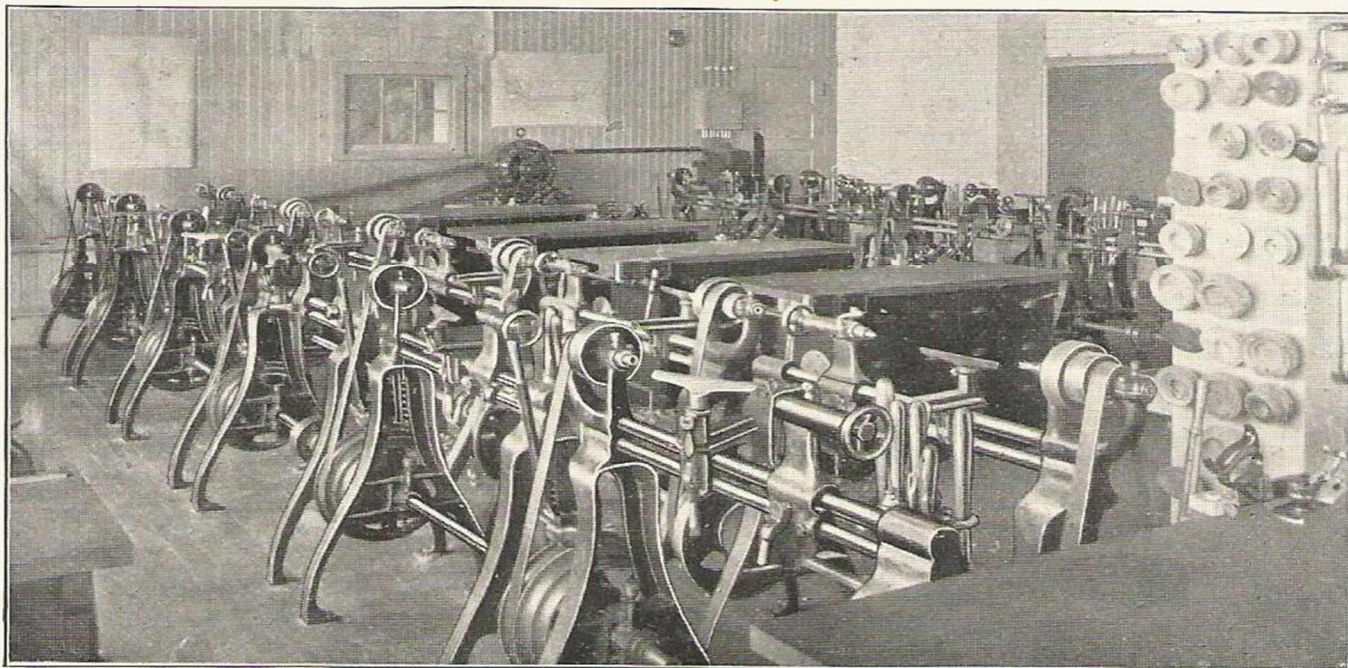
PURPOSE AND POSSIBILITIES—A Band Saw properly guarded has become recognized as a perfectly safe tool in the hands of pupils. It in no way binds upon the work being sawed, draws it in, or throws it back. They are coming into general use in school work, and so far as we can learn there is no record of a serious accident. A pupil in a few minutes can block out from a rough heavy plank the material for a chair, table, or desk, which by hand would require hours of the most tedious kind of physical labor to accomplish. If it now becomes necessary for him to reduce the rough and twisted surfaces common to hardwood material by a hand plane, a practically prohibitive amount of time and physical labor must be expended to bring the surface to working size and shape. With our Hand Jointer these operations are quickly, safely, and scientifically accomplished, with the modern safety appliances which cover the revolving cutter constantly, except that immediately under the work being planed there is no danger.

The pupils' use of these Machines is thoroughly educational and they are highly essential to the production of everything he eats, sleeps, or sits on. Place this outfit into any good live High School of average size under reasonably intelligent instruction and the value of the furniture and other desirable articles which may be produced by it will more than equal the cost by the end of the first year, and ten times that which would be possible without it. See exhibit of eighth grade pupils' work on page 29 in a school where tools of this character are used.

The minimum wage value of an eighth grade pupil's time is worth easily 10 cents per hour, or at the end of a six-hour day a class of twenty-four such pupils have handed over \$14.40 of this actual recognized value, and the modern idea of a fair deal hardly admits of many of their hours being spent even in school using obsolete and unprofitable methods.

GUARANTEES—We are glad to send out our Lathes in the above outfit, giving thirty days' actual use, and pay return charges if not found in every way satisfactory. On larger quantities we suggest we be permitted to ship a sample Lathe with temporary outer bearing and wheel of suitable size to enable prospective customers to test the machines. The motors and other machines made by other firms are furnished under the broadest guarantees available on machines of this character.

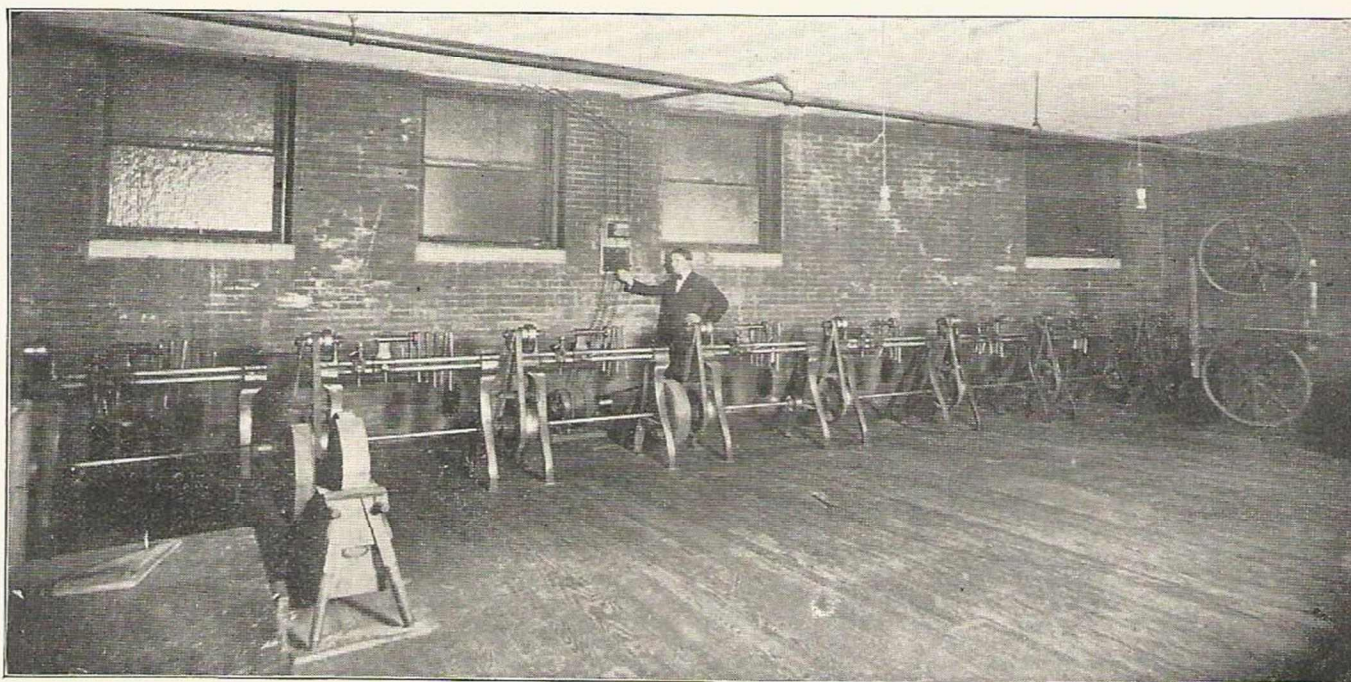
See page 32 for band saw, and page 34 for jointer descriptions.



View of Lathes Referred to in Following Letter

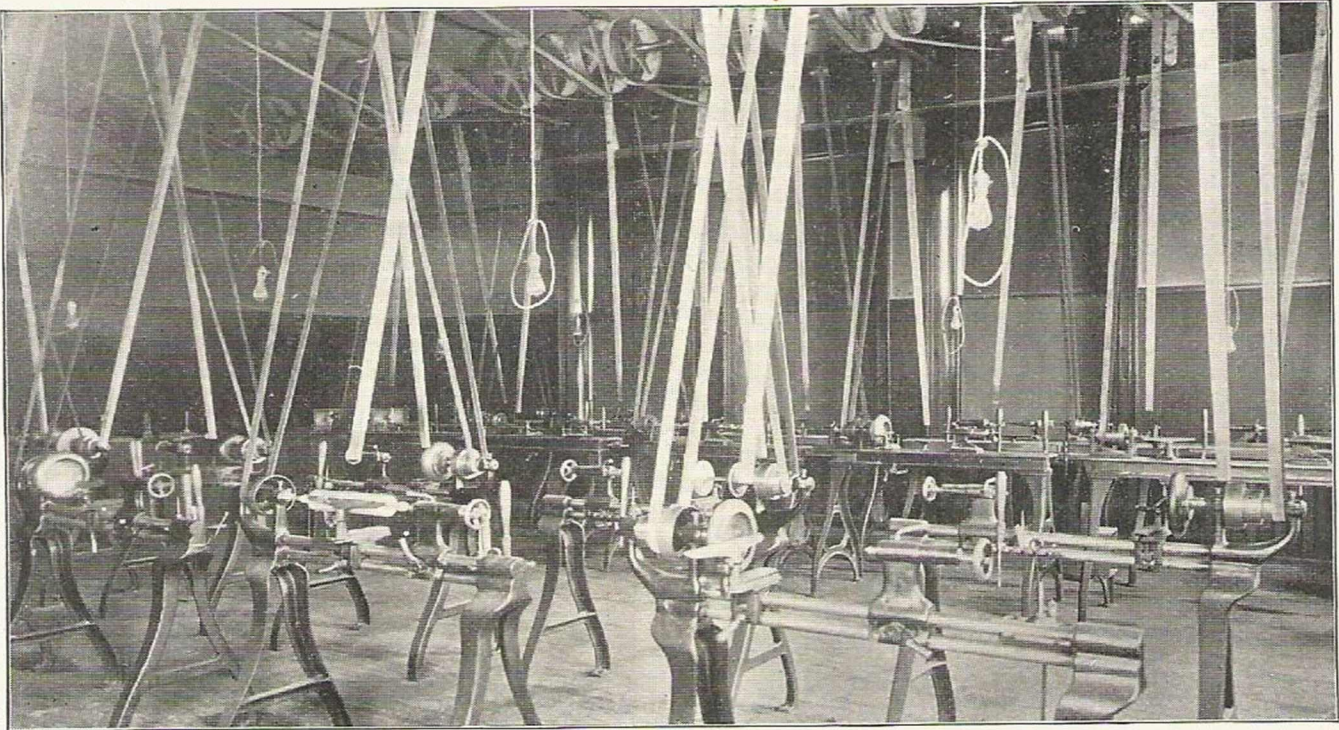
"Our twenty-four Lathes have been running like clock-work ever since they were installed. Our Mr. B. N. McNadney, instructor in charge, says he considers them the most satisfactory all-round school lathe there is to be had. We are very much pleased with them."—MR. B. W. JOHNSON, Supervisor of Manual Training, SEATTLE, WASH.

Lathes referred to in above letter purchased July, 1907. Twelve additional Lathes ordered May 1st, 1908.



View of Lathes Referred to in Following Letter

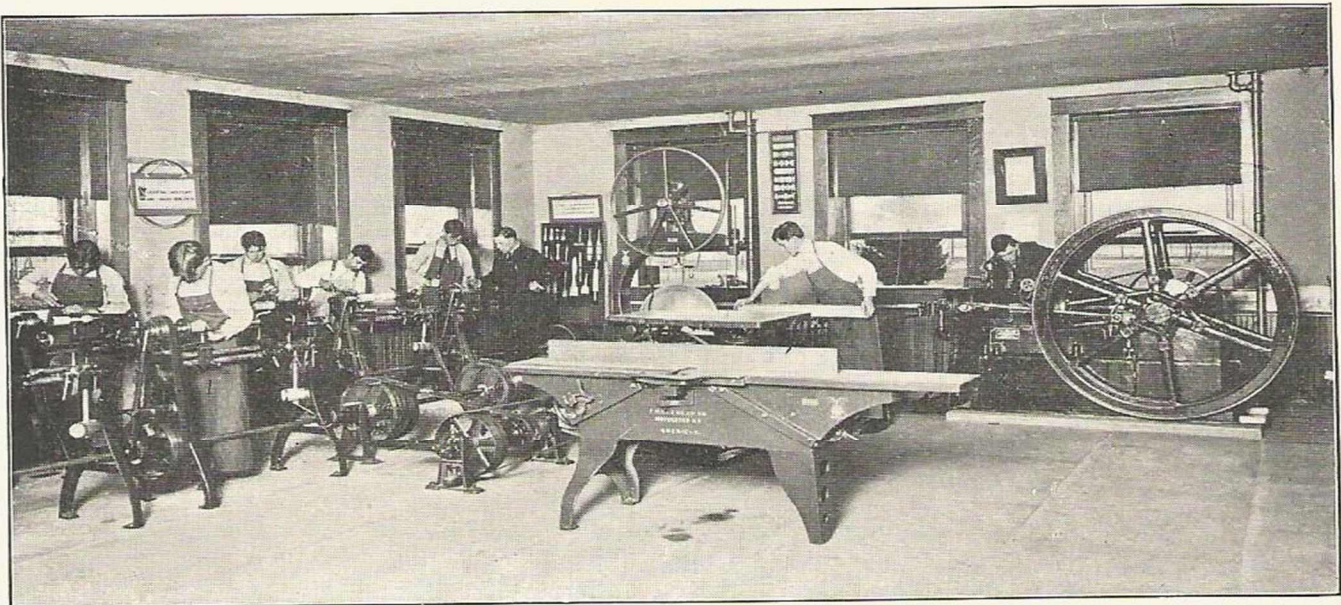
"The eight Wood Lathes bought from you last July have been running each school day this session without requiring the least repair. These lathes have given entire satisfaction and we are much pleased with them."—W. L. THOMASSON, High School, FT. SMITH, ARK.



View of Lathes Referred to in Following Letter

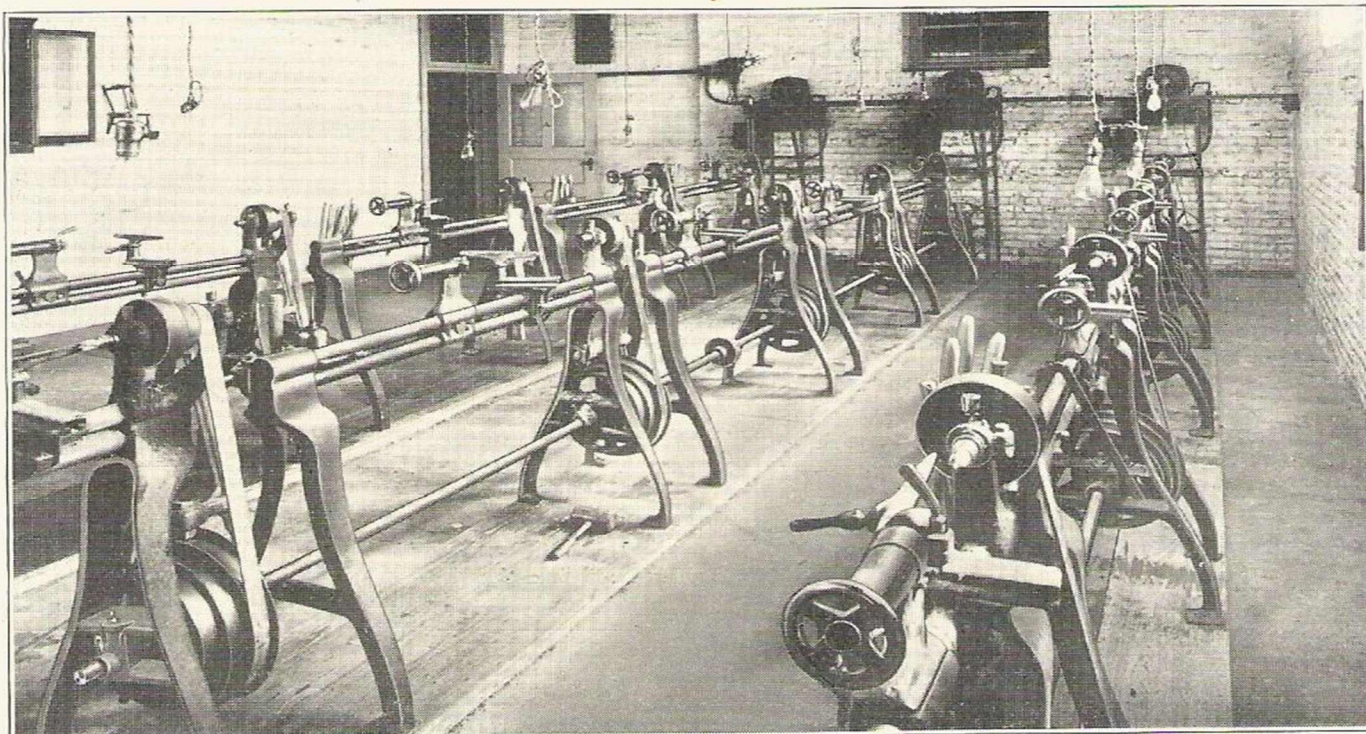
I hesitated somewhat before purchasing the ten Sheldon Lathes with overhead hangers, on account of their weight, but after having classes at work on them for a year doing both small high speed turning and heavy face plate work, I am pleased to state that we are perfectly satisfied with the lathes and that they are doing the same kind of work just as well as the other lathes for which we paid more than twice as much as for these.

I would state further that they are much easier to clean, and we have not had occasion to make any adjustment since they were placed in position.—DR. FRANK S. NEEDHAM, Director Manual Training High School, OAK PARK, ILL.



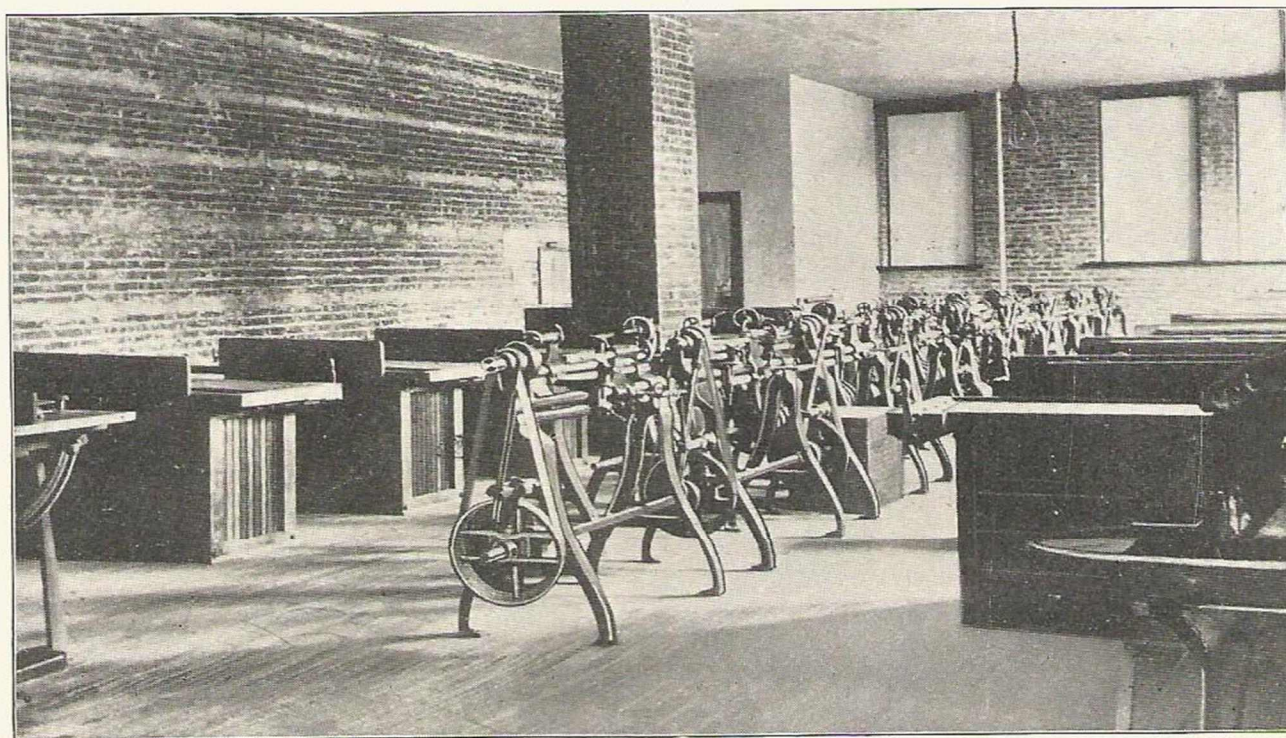
View of Lathes Referred to in Following Letter

We have our twelve lathes and other machinery installed and in good working order. Yours is the most convenient and suitable all-round school lathe I have ever seen. We are much pleased with our outfit.—MR. E. C. BOHN, University Prep. School, TONKAWA, OKLA.



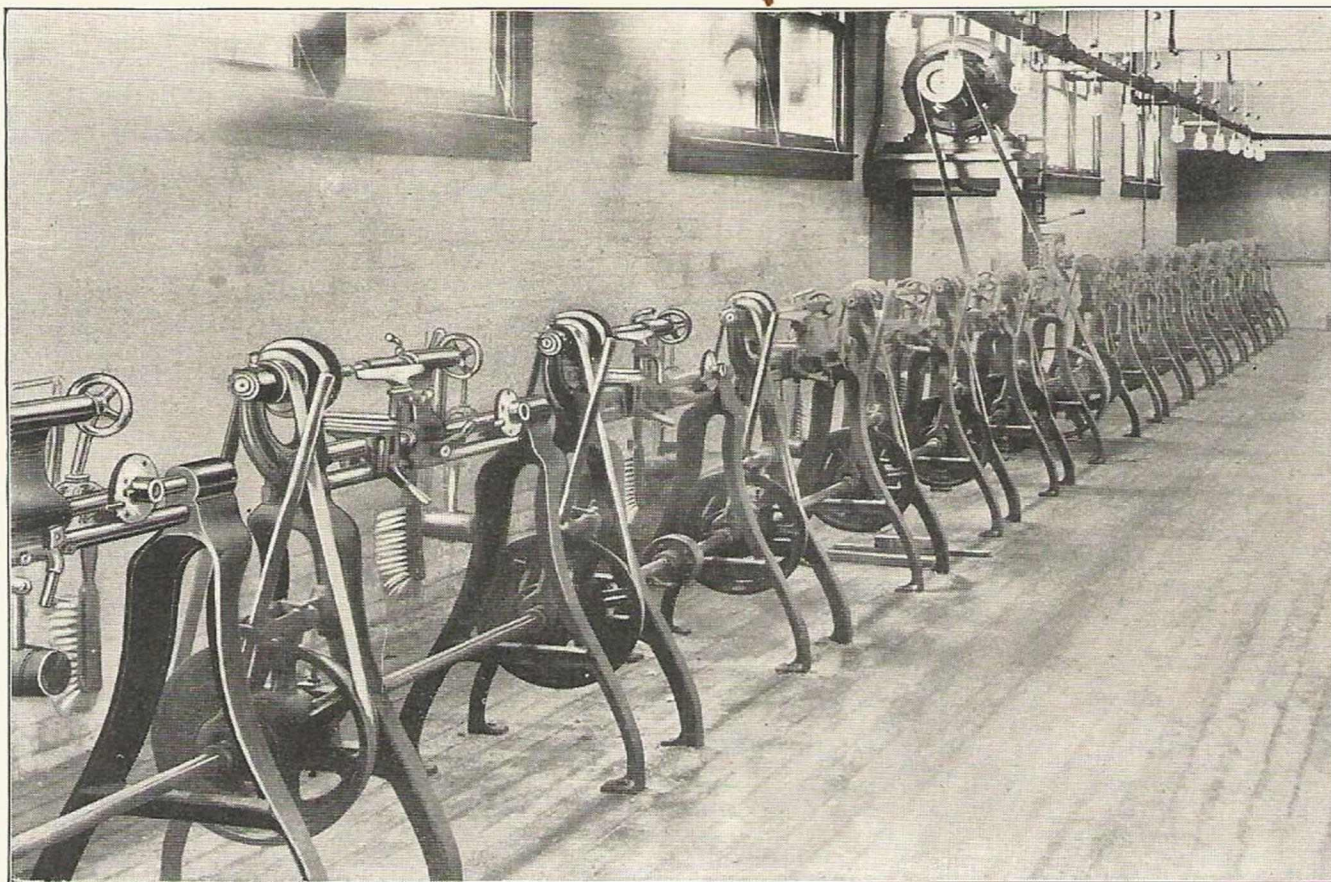
View of Lathes Referred to in Following Letter

The Lathes and Benches purchased from you last fall which we installed in the Manual Training Department of our High School are doing very satisfactory work. Our instructor seems well pleased with the equipment—MR. J. W. WHITEFORD, Supt. of Schools, ST. JOSEPH, MO.



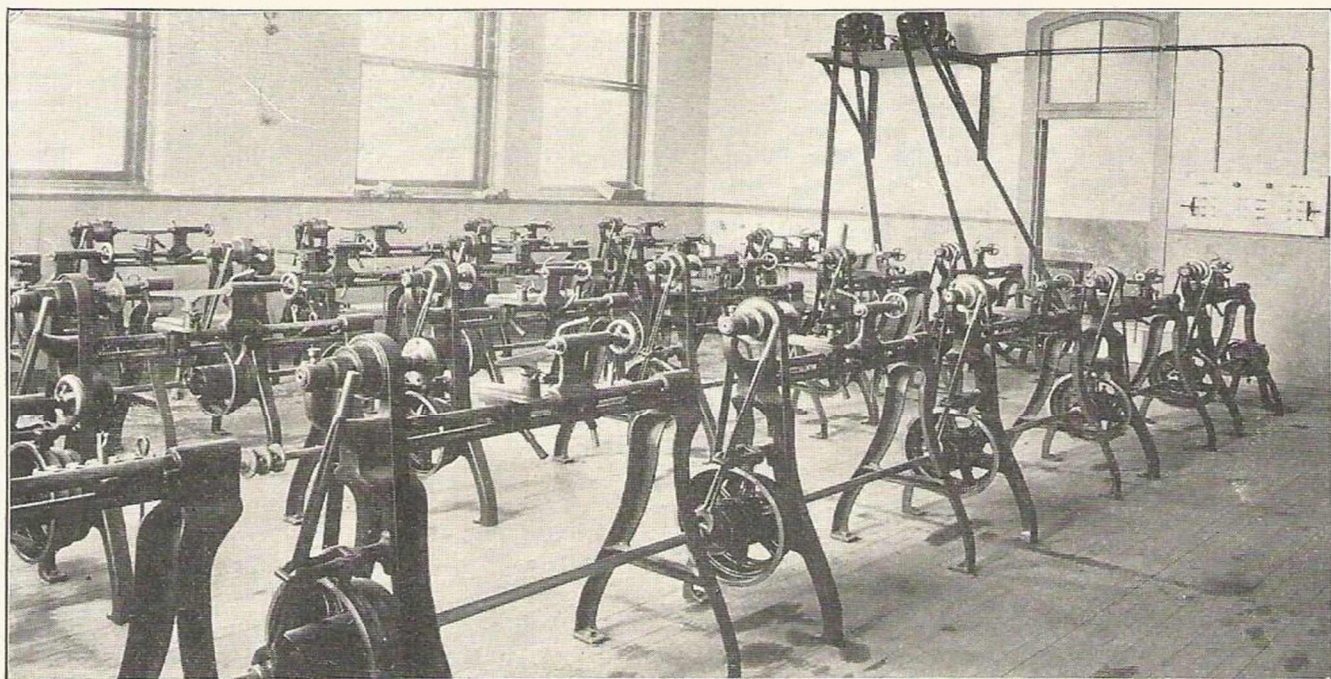
View of Lathes Referred to in Following Letter

I started my boys turning some time ago, and am just delighted with the operation of the lathes bought from you. I am more than pleased with the whole equipment, consisting of sixteen No. 7 Benches and sixteen No. 1 Lathes.—OTIS C. KIRKMAN, Director Manual Training, CHATTANOOGA, TENN.



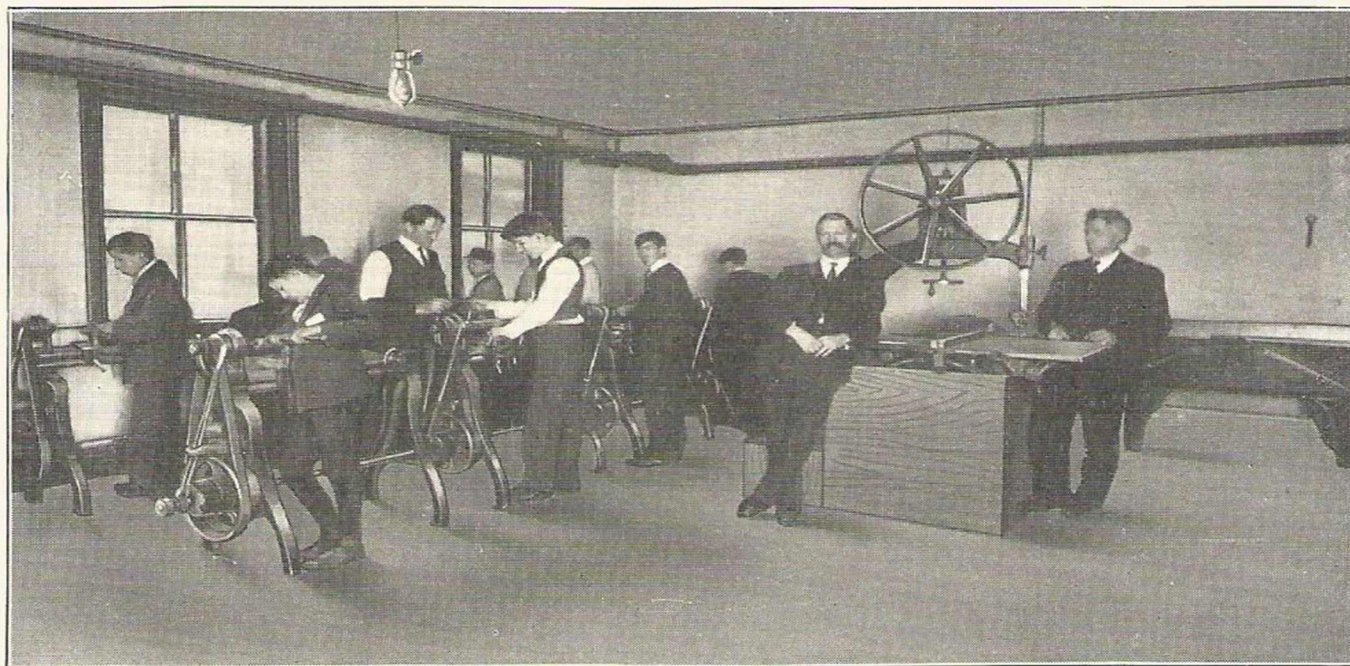
View of Lathes Referred to in Following Letter

"Our Lathes are now installed and are running very nicely. Will send you photograph of the outfit, which I consider a model one, next week."-Mr. A. A. Adams, North Side High School, Milwaukee, Wis.



View of Lathes in the High School, Portland, Oregon

We shipped the Board of Education at Portland, Ore., a sample Lathe, Sept. 27, 1906. The order for above equipment of twenty-four Lathes placed Nov. 23, 1907, after more than one year's experience with the original sample.



View of Lathes Referred to in Following Letter

"Our Lathes and Machinery are working splendidly. We are much pleased with our outfit. We are, also, very much pleased with our Benches."—E. N. Canine, Supt. of Schools, East Chicago, Ind.

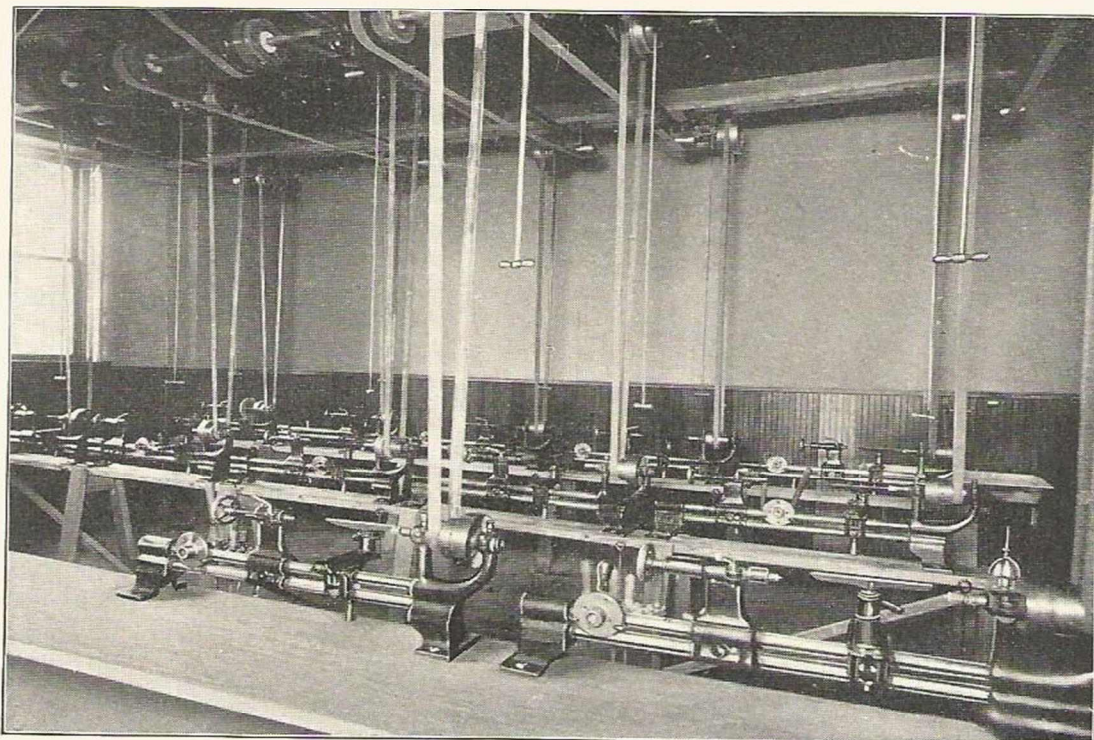
East Chicago's order consisted of an equipment of Benches, Tools, four No. 1 Lathes, one Band Saw, and one Jointer with shafting and belt complete, in 1907. After a year and a half's use of the former lot they ordered four additional lathes at the beginning of the year 1909.

If You Are Going to Buy Lathes

Your first consideration is the actual return and benefit to your institution or community from your expenditure. A wood turning lathe is designed solely and exclusively to revolve a piece of wood within given sizes a lineal surface rate of between six and eight hundred feet per minute, with suitable devices for tool support and hand manipulation. This is all that any hand speed lathe will accomplish for you, regardless of the amount you pay for it.

A Lathe will accommodate but one pupil. Is it pedagogical economy or common sense to decrease the efficiency of your lathe appropriation 300 per cent. by concentrating \$125.00 on one pupil instead of three? Such a policy would mean commercial suicide in any kind of business, and cannot to the slightest degree indicate to a student a policy which he can consistently follow with any kind of commercial success where a dollar expended must represent some kind of reasonable earning capacity.

"We and all who have seen the Benches No. 7, including the mechanics about the building, members of the Board of Education, also Superintendent, regard them as very fine benches. They are, in my judgment, equal to the Benches placed in the McKinley High School, St. Louis, Mo., at a cost of \$70.00 each. I have no objection to your using my name as a reference."—J. H. McBride, Director Manual Training, Public Schools, Topeka, Kansas



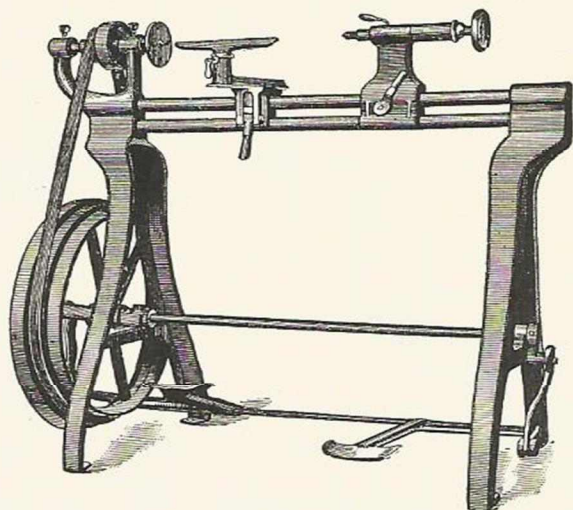
View of Lathes Referred to in Following Letter

I am sending you today a photograph of the twelve bench lathes purchased this year. These are temporarily mounted on trestles but we expect to mount them permanently on work benches during the summer. They have been in constant use since their installation and are giving perfect satisfaction.

I assure you that we appreciate the readiness with which you replaced the parts damaged in shipping and the interest taken in seeing that the lathes run perfectly.

Very truly yours,

WILSON H. HENDERSON
Director Manuel Training High School
Springfield, Illinois



New Patented Speed Lathe No. 2

Price, \$35.00

Weight, 275 Pounds

DIMENSIONS: Swings 11 x 26 inches. Takes 1 1/4 inch Belt.

No. 2 Lathe is similar to No. 1, except in size of small cone wheel, which is designed for 1 1/4 inch belt, and the foot power attachment, which is of the most improved, all-iron, two-pedal style.

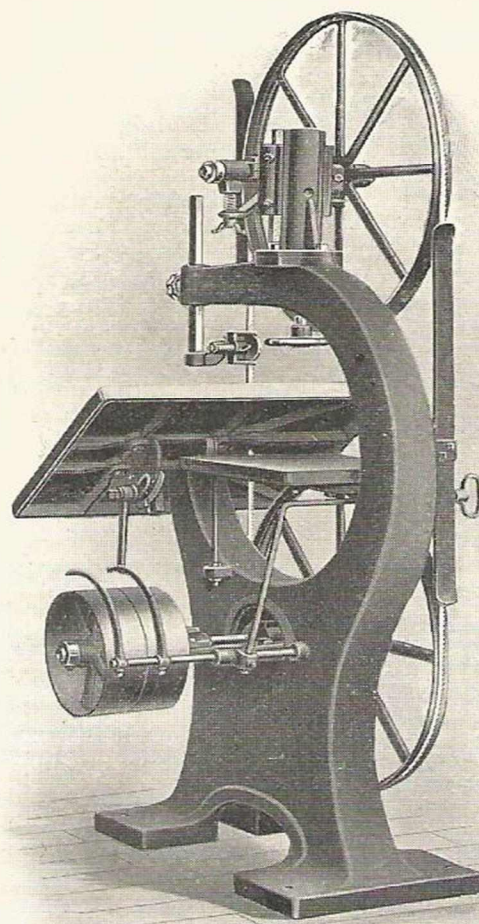
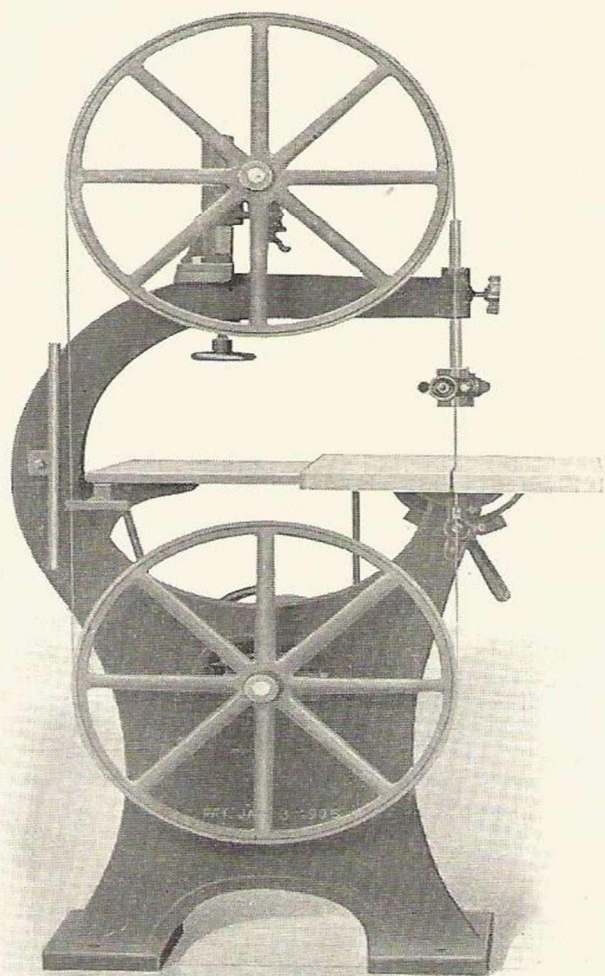
Speed ranging from 500 to 2,000 revolutions per minute may be maintained with great ease and uniformity with our pedal and three-step cone combination.

Either pedal may be instantly detached, or will detach itself if it strikes an obstruction. Pedals are attached to the lathe base, not to the floor, making the machine at all times portable.

The heavy balance wheel, range of speeds and width of belt, make this machine suitable for a wide range of work, in either wood or metal.

We furnish 60° centers for metal turning, at \$2.00 per pair additional, when desired.

We ship samples on approval and pay return charges, if not accepted.



26 and 32-Inch Band Saws

26 Inch Machine, Price, \$70.00

Weight, 625 Pounds

32 Inch Machine, Price, \$90.00

Weight, 900 Pounds

EQUIPMENT: Each machine is furnished with brazing tongs and brazing clamp. One saw blade $\frac{3}{8}$ inch wide, or customer can select any other width of saw up to 1 inch wide without extra charge.

We offer these machines to our trade believing them to be not only the best value obtainable, but machines of the most suitable design, size and style for industrial school work. We are using the above machines in our own factory, and our judgment is based on a long experience not only in factory but actual school use, which we feel justifies us in the statement that no better band saws, either in design, construction or efficiency, is being offered for this purpose in these sizes at any price. Their frames are cast in one piece, cored out, and proportioned on not only artistic, but the most substantial, lines.

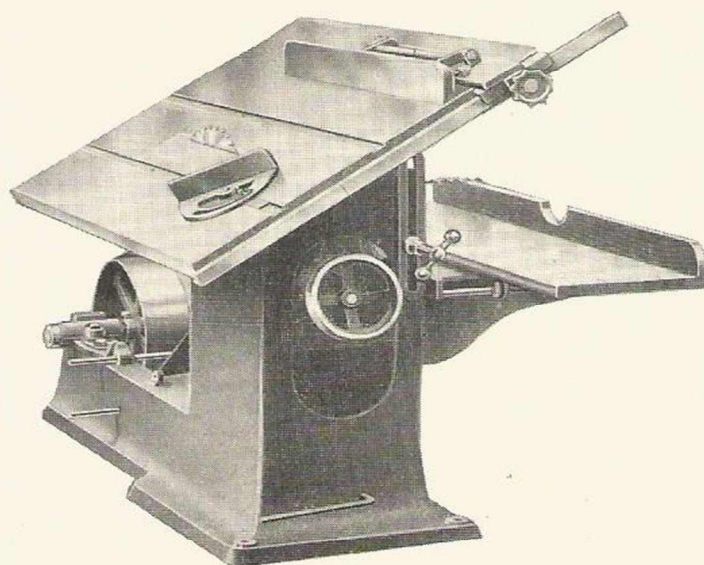
The cuts show the excellent manner of hanging the upper bearings, which are provided with the very latest improved and patented equalizing devices for alignment and methods of taking up wear. The lower bearings are extra long, very accurately aligned and rigidly bolted to the frames. The device for belt shifting, table support and saw tension are of the most improved and substantial pattern. These machines are fitted with the well-known Wright's anti-friction saw guides above the table, and plane steel guides below the table. The Wright Saw Guide can be furnished below the table at a small additional cost. The table has the most approved tilting arrangement, hung in machined groove, and provided with a neatly graduated scale and pointer indicating the degree of angle to which the table is being inclined. It can be tilted to 45° and is provided with an accurate adjustable stop for horizontal position.

No. 2 Combination Saw Table

Price, \$110.00

Price with Boring Attachment, \$130.00

Weight, 975 Pounds



SIZE OF TABLE: 32 x 44 inches.

EQUIPMENT: This machine is furnished with one 12-inch rip saw; one 4-inch endless belt from countershaft; 1 mandrel; 1 wrench; 1 ripping fench; 1 cut-off fench.

Since opening our new bench factory we have been using this machine on our heavy bench grooving, rabbeting, beveling, and cutting off, in some instances using grooving heads up to 2 inches wide, also, for heavy hard wood ripping without a moments delay of any kind for repair or re-adjustment. This experience justifies us in the belief that no greater efficiency could be embodied in this machine had we paid double the above cost. The saw can be instantly raised or lowered by a hand wheel under the table, and will stop and clamp at any point, insuring a positive depth of groove. Table tilts to any angle up to 45° and can be reversed for ripping on left as well as right hand side of the saw.

This fence is attached to a slide provided with a graduate scale showing width being ripped up to 19 inches from saw.

An adjustable cut-off fench is also provided, can be swung to any angle up to 45°. Countershaft with tight and loose pulley and belt shifter is of the most improved type. The countershaft provides an extremely convenient and desirable belt tightening feature. This machine will swing a 14-inch saw and will cut through a piece 4 inches thick. The table is of iron, planed true with a wooden throat to admit the use of groovers up to 2 inches wide. An 8-inch groover cuts a grove 1-inch deep.

No. 1 Saw Table

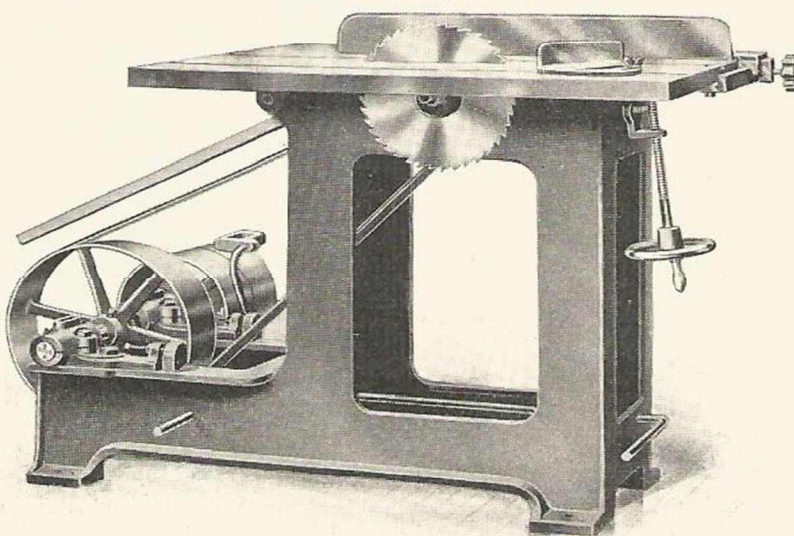
Price \$76.00

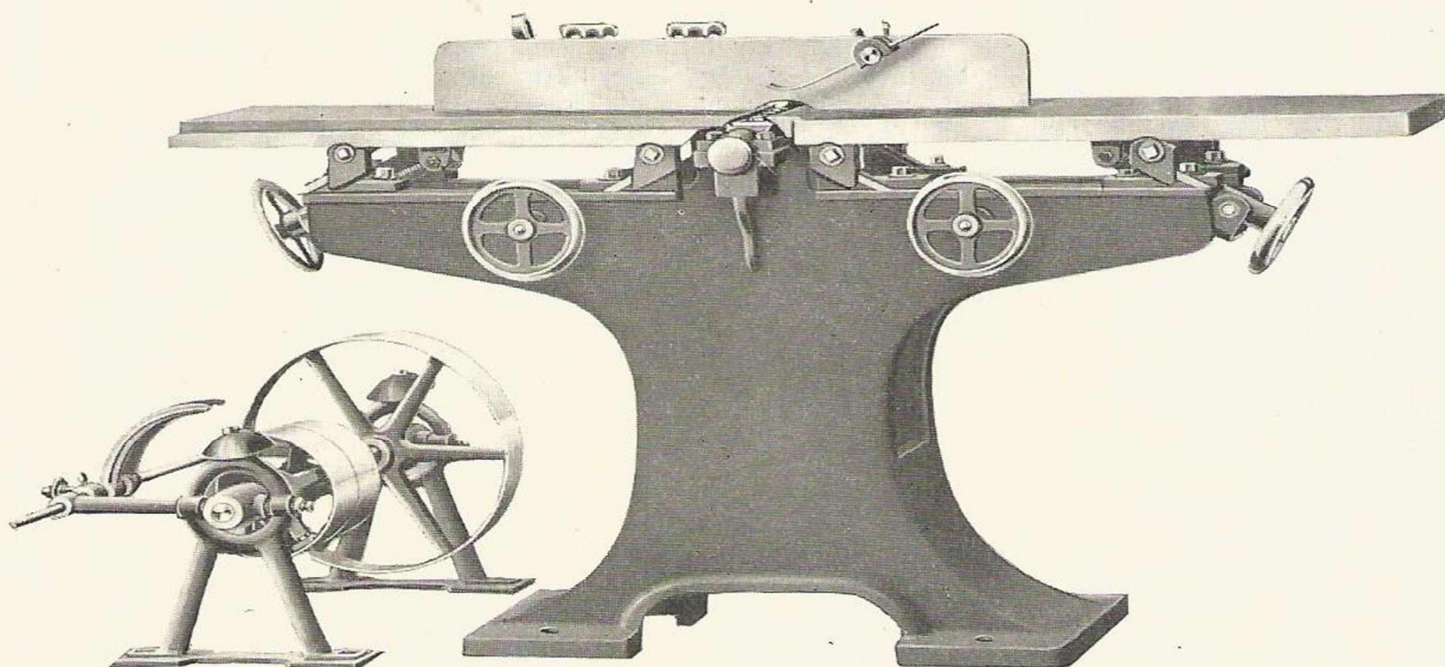
Weight 750 Pound

SIZE OF TABLE 30x38 inches.

EQUIPMENT: With each machine is furnished 1 12-inch saw; 1 endless leather belt from countershaft to mandrel; 1 ripping fench; 1 cut off fench; and 1 mandrel wrench.

The frame of this machine is cast in one piece. This machine for light variety work at a low cost is unquestionably the most complete attractive offer to be made to the school trade. The countershaft has a belt tightening feature like the No. 2. The ripping fench is provided with a tilting feature for adjustment of an angle to 45 degrees and moves on a graduated slide up to 19 inches from saw. A scale being provided showing width to be ripped. The table is hinged at the back, and has wooden throat piece to suit for grooving. Saws up to 14 inches may be used.





8 and 12-inch Jointers

8-inch Jointer \$112.00
12-inch Jointer \$125.00

Weight 800 Pounds
Weight 1275 Pounds

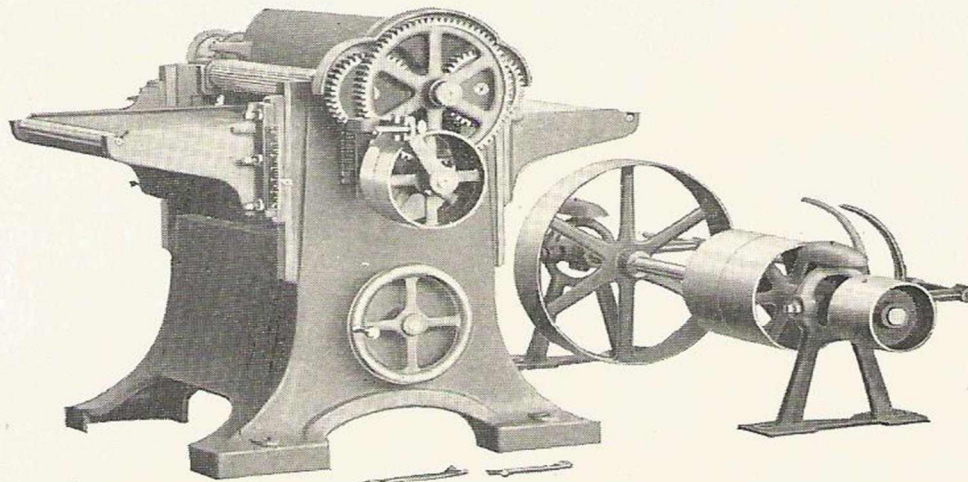
These machines are used for straightening edges and surfaces; Planing surfaces out of wind and trueing adjacent surfaces to perfect right angles, or any other angles up to 45 degrees. A machine of this character is looked upon as indispensable in a shop where any kind of modern cabinet construction is being attempted. With the thoroughly practical modern safety appliances on machines of this size, a pupil can quickly and safely true up edges preparatory to gluing material for chair seats, table tops, etc., in a very few minutes which would require with a hand plane many hours to accomplish. It enables your boys to make men's instead of dolls' chairs, and otherwise greatly increases the scope of work possible in your department. The simplifying of gluing operations makes possible the utilization of much narrower and less expensive material.

Those who are familiar with high-grade machine construction of this character will recognize the points of superiority embodied in the following features of construction: Frame cast all in one piece including bearing. Provided with shoot delivering shavings in back of machine. Bearings made with special care being cast solid in the machine, insures perfect alignment. Lip cast over end prevents oil from being thrown upon the operator. Babitted with the best grade of high speed babitt and adjustable. Lubricated with large oil-chamber and capillary felt, making them practically self oiling. Inclines for adjusting the table are carefully made, and provided with an adjustable clip to take up all wear. These inclines are bolted to a sliding sash which dove-tailed into the main frame and allows the tables to be horizontally withdrawn away from head without in the least disturbing their adjustment. The tables have wide flanges and are heavily ribbed, the rear table being arranged for rabbeting. The fence can be set to any angle from vertical to 45 degrees, can be moved to any position across the table. It is also fitted with one pressure-spring to hold the work to the table. The head is milled from a solid bar of steel, of proper grade of carbon. Two sides tapped for using the regular knives, and two sides with T-slots for attaching special cutters. It is driven by flanged pulleys, securedly keyed on. The countershaft is equipped with drip cups, shifter fingers, and connection for lever.

18 and 24-inch Planer

Price, 18-inch Planer \$150.00
Price, 24-inch Planer \$175.00

Domestic Shipping Weight 1,200 Pounds
Domestic Shipping Weight 1,400 Pounds



	18-inch Planer	24-inch Planer
DIMENSIONS: Width and thickness will plane.....	17 $\frac{3}{4}$ x 6 inches.....	23 $\frac{3}{4}$ x 6 inches
Width of drive-belt.....	4 inches.....	4 inches
Size of tight and loose pulleys.....	10 x 5 inches.....	10 x 5 inches
Speed of countershaft, per minute.....	825 revolutions.....	825 revolutions

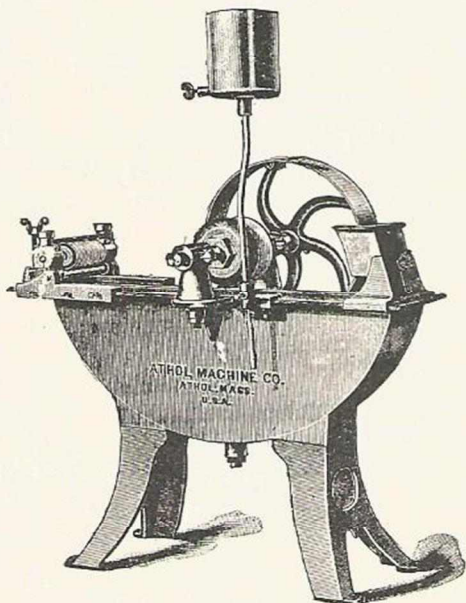
THE FRAME of this machine is cast in one piece, insuring a steady-running machine, impossible to get racked out of alignment; this feature being above comparison with bolted frames.

THE BED is gibbed direct to the body of the frame—does not slide on ways inside of frame. This construction is rigid, accessible for adjustment, and not liable to clip the ends of the lumber.

THE CHIP-BREAKER AND PRESSURE-BAR are placed as close to the head as clearance will allow, so that extremely short stock may be worked.

THE BEARINGS for the head are entirely free from complication. The lower part is cast solid with the frame, insuring permanent alignment. They are filled with the best grade of high-speed babbitt. They are provided with liners, to adjust for wear; with self-closing oil covers, to exclude dust; and also with an oil chamber and capillary felt, making them practically self-oiling. The other bearings throughout the machine have self-closing oil-covers where possible.

THE HEAD is milled from solid bar of steel, of proper grade of carbon. It is carefully balanced; is suited for two knives; and is driven by flanged pulley, securely keyed on.



THE FEED is driven from countershaft to a pair of tight and loose pulleys on the machine. For starting and stopping the feed, a convenient belt-shifter is provided. Regularly the machine has a feed of 25 feet per minute, but will be furnished at same price with larger pulley to give a feed of 30 feet per minute. Upper rolls only are driven, the infeeding roll being corrugated. All the rolls are made of steel. Gears are cast from cut patterns, faced off on side.

A SCALE made of brass, neatly graduated, shows accurately the thickness of stock being surfaced. One revolution of hand-wheel will raise table $\frac{1}{4}$ inch.

COUNTERSHAFT. The machine may be belted in any direction to countershaft—above or below, to front or rear. Countershaft has drip-cups, shifter-fingers and connection for lever.

Grindstone

Price, fitted with 30 x 3 $\frac{1}{2}$ stone \$27.00 Wt. 400 lbs.

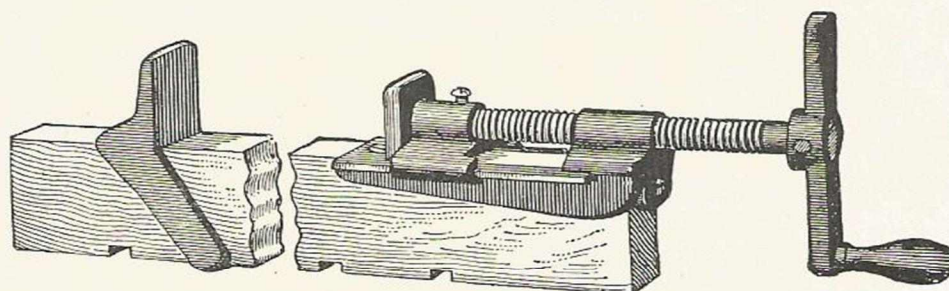
Includes truing attachment, tool rest, drip cup, and belt wheel. The completeness, efficiency, and quality of this machine has made it very popular in the school shop.

Sheldon's Patent Malleable Clamp Fixtures

Price, per set \$.60

Price, Per dozen \$6.50

Mounted with bolts on maple bars, oil finish, 8 cents per foot additional



No. 1

These cabinet clamp fixtures are designed to attach to wood bars, $1\frac{1}{4}$ inches thick by $2\frac{1}{2}$ inches wide, any length. When attached to hardwood bars make the strongest, lightest, most easily operated wood frame clamps to be had at any price. The screws are $\frac{5}{8}$ inches in diameter, 7 inches long, with deep, square threads cut from cold rolled steel. The sliding head is supported by malleable guides, thus relieving the screw of any bending strain when clamping irregular or thin stuff. They also keep the head from turning when pressure is being applied. The heads are easily hung, and will not get loose or out of line with the frame, or split the wood to which they are attached.

Weight, $3\frac{3}{4}$ pounds. Head, $1\frac{1}{4}$ inches square. Notches for saddle cut by boring 7-16 inch hole between 2 bars clamped together.

E. H. Sheldon Co., Chicago, Ill.
Gentlemen:

Sioux City, Iowa.

We are pleased to state that the 25 dozen Clamp Fixtures which we bought of you a little over a year ago are giving excellent service. We are well satisfied with them and shall be pleased to remember you whenever we want anything additional in this line

Yours truly,

Curtis Sash & Door Co.

"Your Clamp and Vise are the best we ever saw. We are using your Clamp-heads on 12-foot bars, on interior construction, and they save us an extra man on much of the work."—Edis & Horn, Builders, 5525 Lake St., Chicago.

BOARD OF SCHOOL INSPECTORS

Dept. of Manual Training

Hans W. Schmidt, Supervisor

E. H. Sheldon Co., Chicago, Ill.
Gentlemen:

St. Paul, Minn.

The 12 dozen Clamps we bought last fall are well worth the price and they are proving very satisfactory.

Sincerely yours,

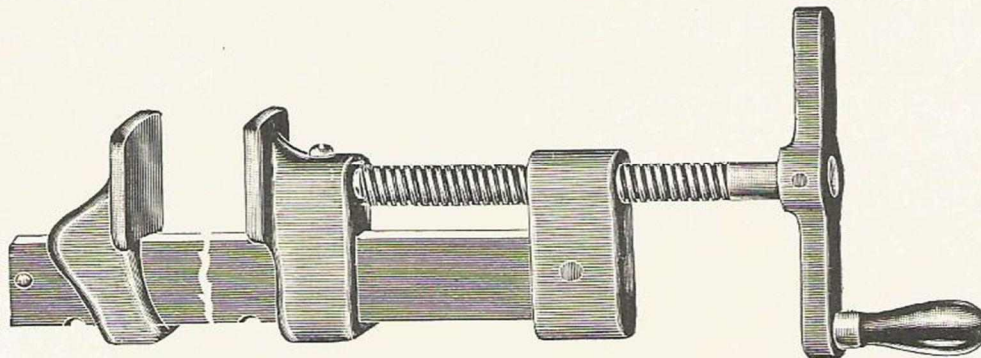
Hans W. Schmidt.

AMONG THOSE WHO ARE USING OUR CLAMPS

Public Schools, Cincinnati, O., 6 dozen Clamps.
Public Schools, St. Paul, Minn., 12 dozen Clamps.
Public Schools, Seattle, Wash., 12 dozen Clamps.
Board of Education, Rockford, Ill., $3\frac{1}{2}$ dozen Clamps.
Board of Education, Chicago, Ill., 24 dozen Clamps.

"I don't see how your vises could be better. I used them three years at St. Cloud, Minn., and they gave perfect satisfaction. I wish I had them on the benches I am now using, instead of the great awkward, clumsy ones with which my present benches are equipped. I am very much pleased with your lathes, also your sample No. 4 Bench."—G. G. Greene, Dept. Manual Training, State Normal Schools, Moorehead, Minn., April 28th, 1905.

Sheldon's Tempered Spring Steel Bar Clamps



Price	2½ foot	\$1.10
"	3 "	1.25
"	4 "	1.40
"	5 "	1.55
"	6 "	1.70
"	7 "	1.85

Screw, ⅝ inches diameter, 7 inches long; square thread cut from cold rolled steel; sliding head 1¾ by 2 inches. Saddle held in bar notches by indestructible spring Bars 5-16 by 1⅝ inches steel.

The extra stiffness of the Spring steel used in these bars permits the use of a screw with 8 threads to the inch, giving 25 per cent. greater pressure than the usual 6 threads per inch, commonly used.

Our double end malleable cranks, are not only quick acting and indestructible but permit the use of two hands for excessive pressure. These saddles have no pawls or triggers to break or wear out. The sliding head is fitted to bar in such a manner that there is no possibility of bending screw.

Some of Our Recent Orders on Spring Steel Bar Clamps

Practically all being placed with us after testing samples

Paul Mfg. Co., Ft. Wayne, Ind., 120 Steel Bar Clamps. Their original inquiry was for a tempered tool steel bar clamp. The above order, however, was placed with us after their test of our regular spring steel bar clamp.

Farley & Loetcher, Dubuque, Iowa, two orders aggregating 120 4-ft. Steel Bar Clamps.

Melville Clark Piano Co., De Kalb, Ill., one order for 50 Clamps.

West Side Mfg. Co., Milwaukee, Wis., 75 Clamps.

Derby Mills Co., Burlington, Iowa, 50 Clamps.

Sheboygan Chair Co., Sheboygan, Wis., 24 Clamps.

Northern Engineering Co., Montreal, Canada, 72 Clamps.

J. B. Madsen & Co., Chicago, Ill., 74 Steel Bar Clamps.

H. C. Nieman & Co., Chicago, Ill., 50 Steel Bar Clamps.

Kraetzer, Fisher Co., S. Chicago, Ill., 24 Steel Bar Clamps.

Chicago City Ry. Co., Chicago, Ill., 36 Steel Bar Clamps.

Manhattan Lumber Co., S. Chicago, Ill., 24 Steel Bar Clamps.

L. Fisher Co., Whiting, Ind., 24 Steel Bar Clamps.

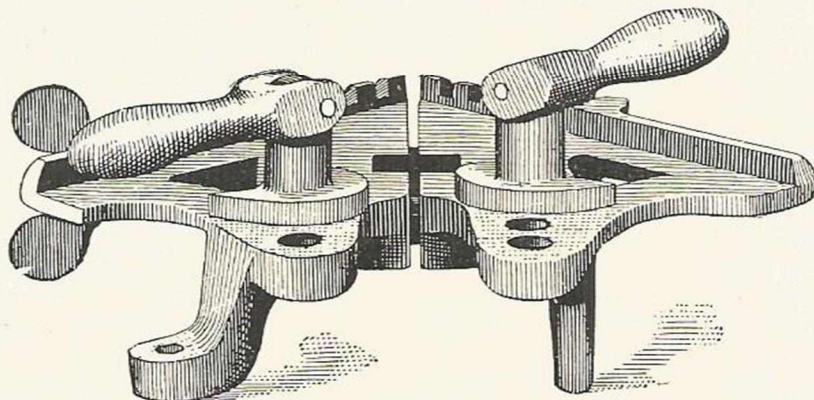
Miter Clamping Vise

No. 1, \$1.25

Takes in pieces up to 3 inches

No. 2, \$2.25

Takes in pieces up to 5 inches



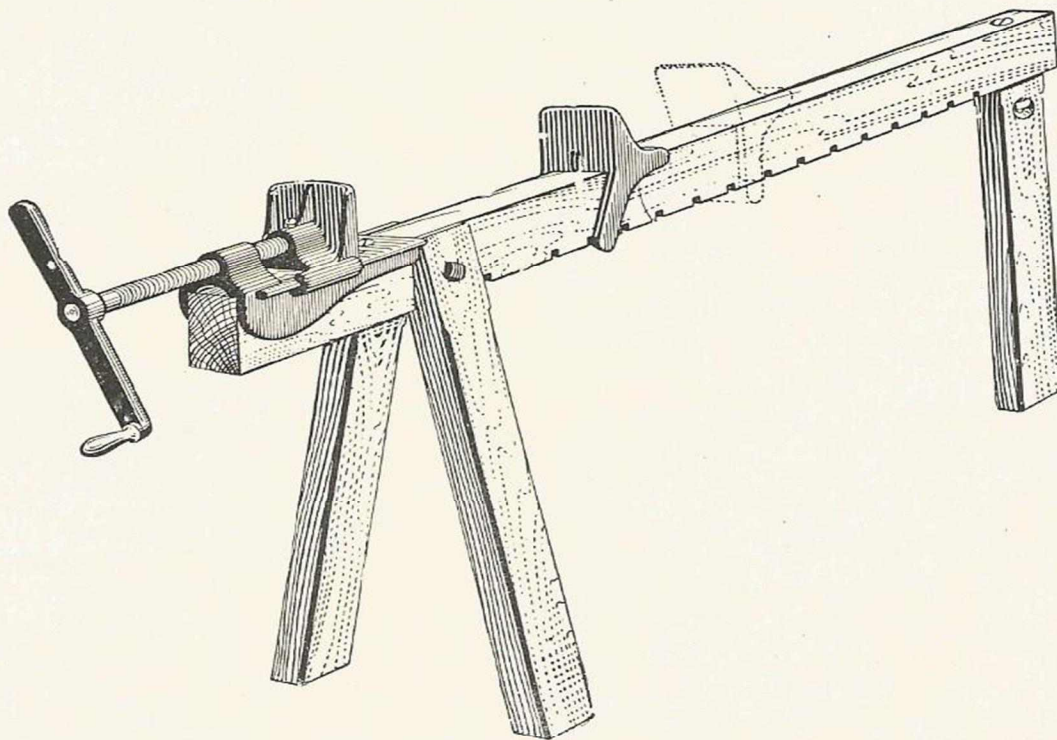
Very convenient device to clamp for nailing or gluing miter or square joints in frames of any kind. Work may be quickly put in. It is held rigidly in place during these operations.

Malleable Iron Horse Clamp

Price, per set \$2.50

Price, mounted on 6 foot maple bars \$4.00

Weight 15 Pounds



Sliding head $3\frac{1}{2} \times 4$ inches; screw square thread cold rolled steel 10 inches long, 1 inch in diameter. Frame and saddle adapted for bars $2\frac{1}{4} \times 4$ inches. Our long experience in the manufacture of clamps enables us to embody in this Horse Clamp the very highest degree of efficiency and one which is practically unbreakable.

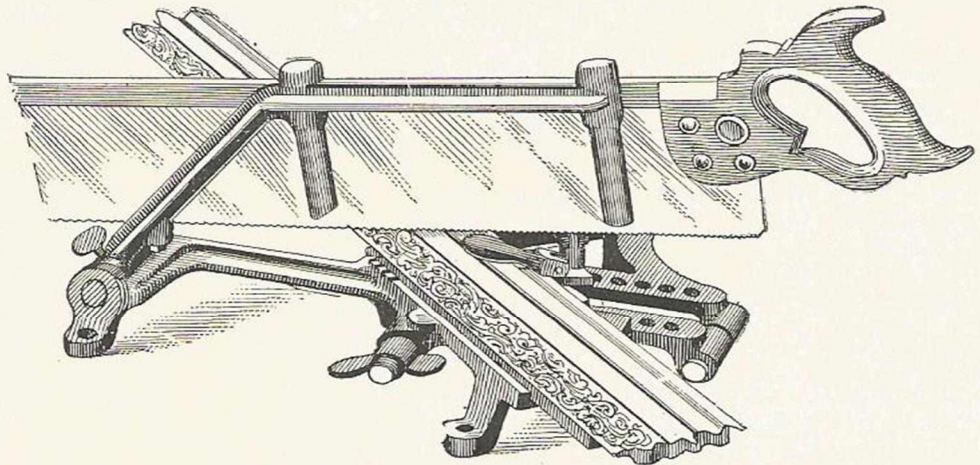
Miter Sawing and Clamping Machine

Price, \$6.50

Price with 20-inch Saw, 4-inch Underback, \$8.00

The most delicate moldings of any shape held firmly while being sawed, and drawn tightly together in exact position while being nailed. This machine saves a frame maker its cost in time saved, in fitting and assembling wide frames cut by trimmers or miter boxes in an incredibly short time.

The cut shows machine in position to cut moldings to required lengths and angles.

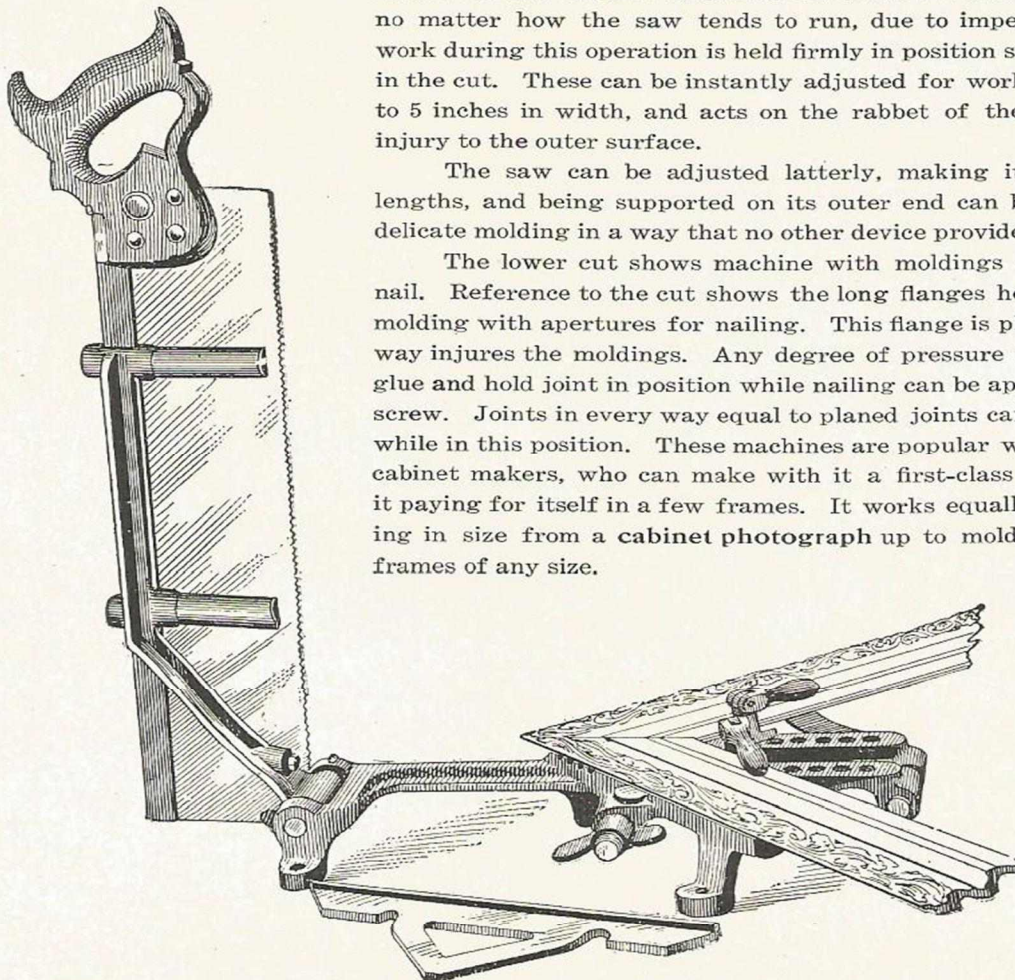


Shows Machine Sawing to Lengths

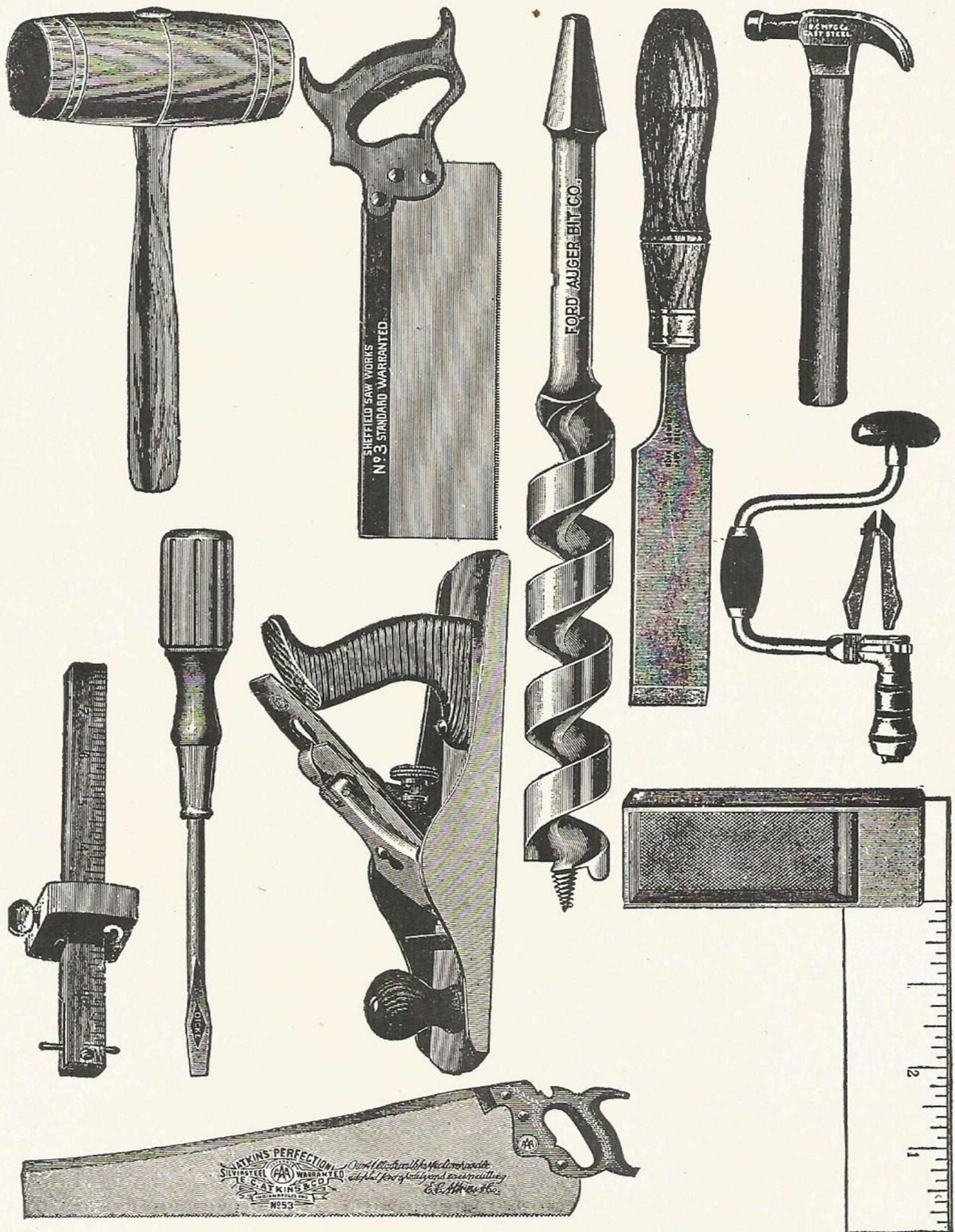
The surfaces holding these pieces are planed true and accurately assembled so that the two angles composing the joint will form a perfect right angle, no matter how the saw tends to run, due to imperfect sharpening. The work during this operation is held firmly in position shown by the eccentrics in the cut. These can be instantly adjusted for work ranging from $\frac{1}{4}$ -inch to 5 inches in width, and acts on the rabbet of the moulding preventing injury to the outer surface.

The saw can be adjusted laterally, making it easy to saw to exact lengths, and being supported on its outer end can be controlled in sawing delicate molding in a way that no other device provides for.

The lower cut shows machine with moldings clamped in position to nail. Reference to the cut shows the long flanges holding well back on the molding with apertures for nailing. This flange is planed smooth and in no way injures the moldings. Any degree of pressure required to squeeze out glue and hold joint in position while nailing can be applied by turning thumb screw. Joints in every way equal to planed joints can be made by re-sawing while in this position. These machines are popular with photographers and cabinet makers, who can make with it a first-class frame in a short time, it paying for itself in a few frames. It works equally well on frames ranging in size from a cabinet photograph up to moldings 5 inches wide, in frames of any size.



Showing
Machine
Clamping Work
for
Nailing



The above cuts show the principal tools in our offer and will be recognized as the standards in these tools. None better in either quality or utility

Tools

Our connection with leading manufacturers and jobbers renders this assortment of Tools as near perfect as is possible, as regards price, high grade and prompt deliveries.

Set For Each Bench

- 1 14 in. iron Jack plane. No. 5
- 1 10-inch Atkins Back saw.
- 1 13-oz. forged steel warranted Adz eye hammer.
- 1 6-inch Stanley graduated all iron try square.
- 1 Stanley pat. adjustable point marking gauge.
- 1 Stanley No. 18 2-foot 2 fold boxwood rule.
- 1 Each $\frac{3}{8}$ inch and $\frac{1}{4}$ inch firmer short socket chisels, handled and sharpened.
- 1 Swedish sloyd knife.
- 1 $2\frac{3}{4}$ inch x 6 inch polished mallet.
- 1 9 oz. all bristle Bench brush.
- 1 4 inch Champion pattern screw driver.

Price, complete \$5.00

For 25 cents additional we will substitute a 12-inch Lufkin machine divided steel scale for the above No. 18 Rule.

Set of general tools sufficient for six pupils and should be duplicated for each additional six in a class, except in bit sets which should be added to in assorted sizes as required.

- 1 set, 13, auger bits $\frac{1}{4}$ to 1 inch inclusive.
- 1 8 inch Atkins ratchet brace. Alligator steel jaws. Plated heads.
- 1 rosehead countersink.
- 1 forged steel screw driver bit.
- 1 Razor lade 8 inch draw knife.
- 1 No. 52 iron spoke shave.
- 1 26 inch rip saw, Atkins No. 53.
- 1 22 inch cross cut Atkins No. 53.
- 1 6 inch coping saw with 1 doz. extra blades.
- 3 Atkins silver steel Cabinet scrapers.
- 3 10 inch $\frac{1}{2}$ round cabinet files.
- 1 Steel 24 inch x 16 inch framing square.
- 6 6 inch malleable iron clamps.
- 6 36 inch Sheldon spring steel bar clamps.
- 1 2 inch x 6 inch combination India oil stone.
- 1 3 inch bronzed oil can.

Price, complete \$20.00

- 1 $\frac{3}{8}$ inch turning chisel, handled and sharpened.
- 1 $\frac{1}{4}$ inch turning chisel, handled and sharpened.
- 1 $\frac{1}{4}$ inch turning gouge, handled and sharpened.
- 1 $\frac{5}{8}$ inch turning gouge, handled and sharpened.
- 1 $\frac{1}{2}$ inch parting tool, handled and sharpened.

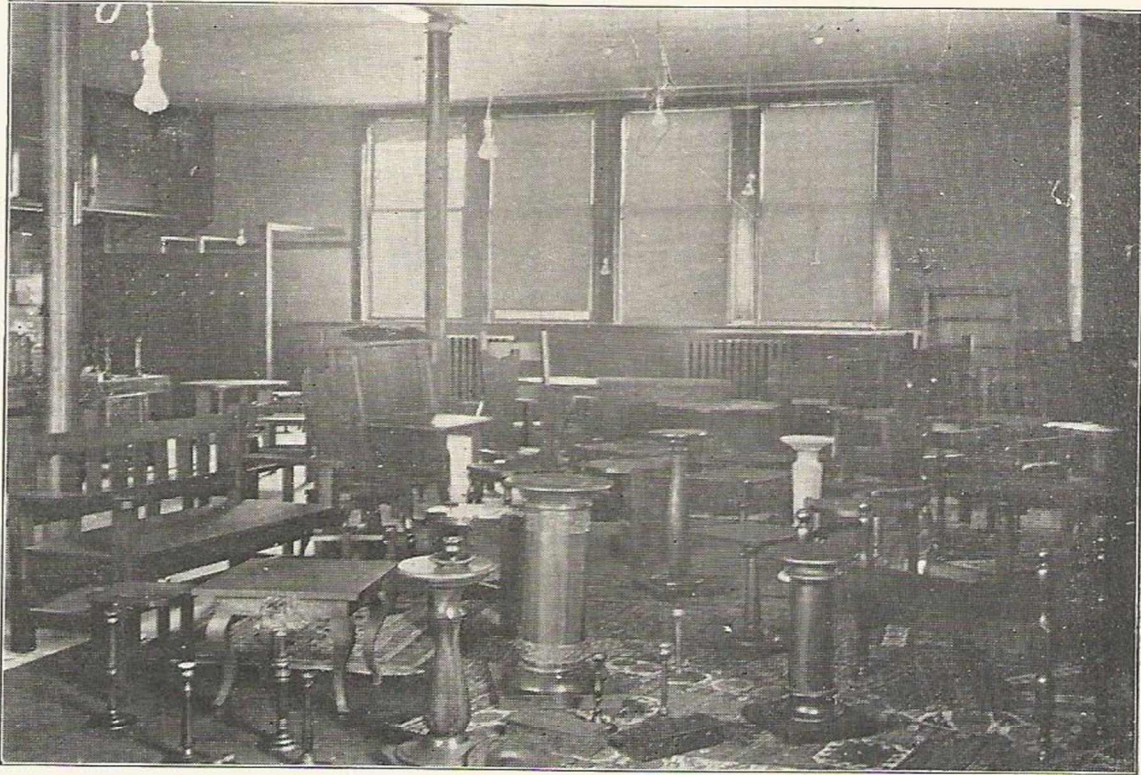
Price, complete \$2.35

Our offer in the above sets includes only tools that are essential. They have become standards in schools of highest grade.

Sizes and styles selected are the result of 16 years of continued personal experience in prominent Manual Training Schools.

Do not include in your list for bids items that do not belong to the Hardware Trade. They make your order from the jobbers' standpoint undesirable and undoubtedly increase the total cost to you.

Julius Modiska
Manufacturer of.
Five Diamond Mountings
40 John St. New York.



Manual Training Products of 8th Grade Pupils

This photo cut shows work of 8th grade pupils done in one two-hour period, each week, for one year, in a school district enrolling 60 eighth grade pupils.

Their equipment includes our Vises, Clamps and Lathes.

Those who contemplate the purchase of an equipment will note from the above: That grade pupils can do things; that in progressive schools they are doing things.

The above work as compared with that of schools equipped with cheaper appliances, sometimes said to be good enough for the grades, needs no comment.

ISN'T A PUPIL'S TIME JUST AS VALUABLE AT THE AGE OF 13 as at 14? If so, should not his appliances be as convenient and effective?

Is it consistent to sacrifice the time of your grade pupils, with appliances you consider inadequate for High School?

IF YOU WISH YOUR 7TH AND 8TH GRADE pupils to be manly, give them a man's tools, and let them make a man's chair. The better grade schools are demonstrating that, thus inspired, they reason and work like men and get men's result.

Can you imagine FOUR MEN huddled around a bench FORTY-EIGHT INCHES SQUARE—getting results?

"I find your Bench all that you claim it to be, and I think that taking everything into consideration it is the best Manual Training Bench on the market. Any time that you wish to refer a prospective customer to me, you may feel at liberty to do so."—James E. Dougan, Supervisor Manual Training, Piqua, Ohio."

E. H. Sheldon & Co., Chicago, Ill.

Gentlemen:—Our 20 lathes are entirely satisfactory; they are all working well and do not cause us any delay or inconvenience. The vises are the best I have ever used—no breakage after nearly a year's usage, and no apparent wear. I am very well satisfied with the whole outfit furnished by you.

Very truly,

H. M. APPLEMAN,

Dept. of Manual Training, High School, South Bend, Ind.

"In reply to your favor of March 4th, I am very glad to be able to say that the Lathes, Saws, etc., which we secured from you last year, have been entirely satisfactory. I shall be glad to recommend any or all of this machinery to any parties desiring information concerning them."—MR. S. J. SLAWSON, Supt. of Schools, Orlean, N. Y.

"We are very much pleased with our Lathes and Benches. Our Manual Training Instructor says he believes he has one of the finest Manual Training Outfits to be seen anywhere in this section of the country."—O. C. BAKKE, Board of Education, Onawa, Ia.

Onawa's Order: Twenty No. 6B Benches and six No. 5 Lathes.

"The Lathes purchased from you last summer are in running order, and are doing 'nicely.'"—R. B. CRANDALL, High School, North Plainfield, N. J.

North Plainfield's Order: Four No. 4 and two No. 5 Lathes complete.

"I am referring Supt. _____ to you for Manual Training goods. Kindly send him catalogue. Your Lathes which we are using here are O. K. I am much pleased with the treatment we received from your house, and take this way to show it."—O. A. BARTON, Director Manual Training, Valley City, N. D.

Valley City's Order: Two No. 1 Lathes and thirty-four No. 6 Benches.

"We have our Lathes installed and in running order. We recently made a test on them, turning a heavy rough piece of hedgewood. The machines stood the test perfectly. We are very much pleased with them."—T. M. WOOD, Labette Co. High School, Altamont, Kansas.

"Please ship us as early as possible two No. 5 Lathes. These are to be added to our present equipment of No. 1 Lathes."—J. A. CADY, Supt. Industrial Reformatory, Hutchinson, Kansas.

STATE NORMAL SCHOOL

New Paltz, N. Y.

E. H. Sheldon & Co., Chicago, Ill.

Gentlemen:—In reply to your letter of Feb. 18th, I am pleased to state that the Lathes and Model Outfit is installed and is giving excellent satisfaction. Very truly yours,
JOHN C. BLISS, Pres.

E. H. Sheldon & Co., Chicago, Ill.

Gentlemen:—The benches we purchased of you are giving entire satisfaction. I consider the equipment you are putting out the best on the market for the price. Our purchase from you was placed in the same room with a much more expensive outfit and the Visers have easily held their own while the benches have given better satisfaction on account of the re-inforcing of the ends of the tops.

Yours truly,

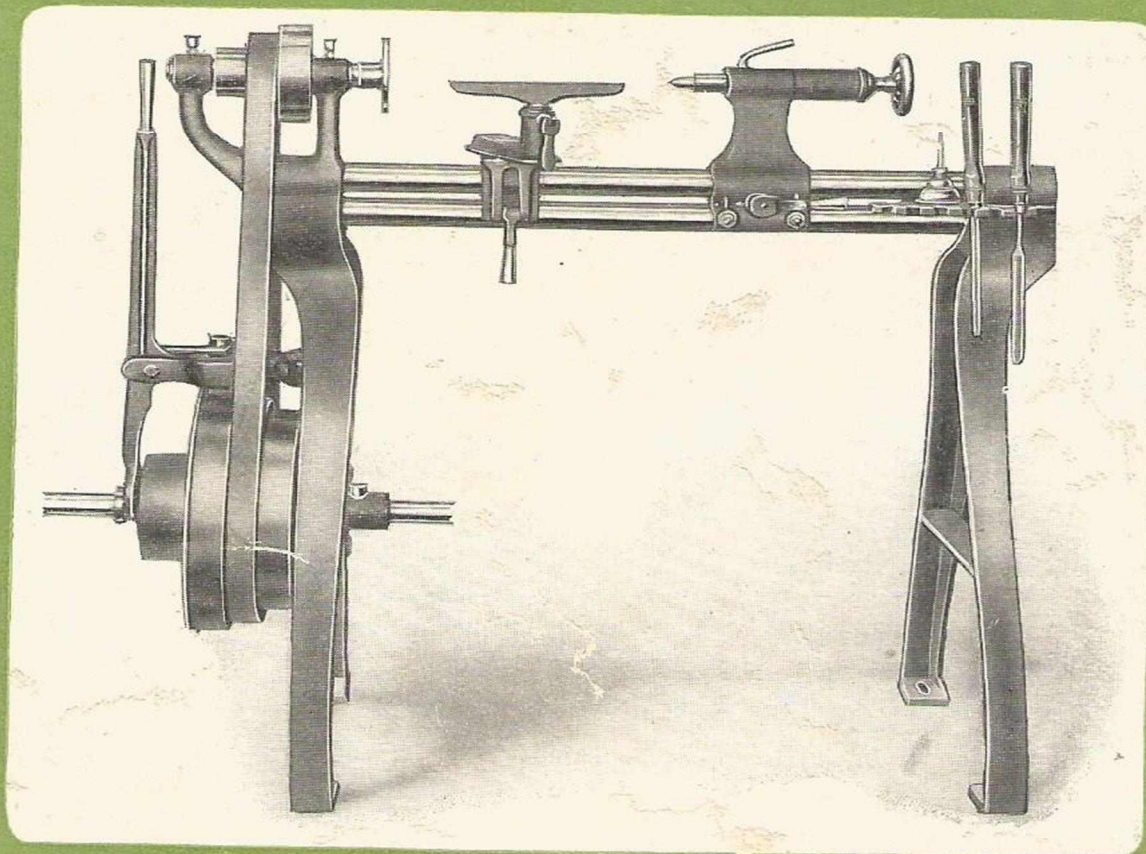
IRA S. GRIFFITH, Supervisor of Grades,
Oak Park, Illinois

The 65 Benches ordered for the Trenton Schools are in place, and I am much pleased with the appearance of them. I know of no other concern that seems to be hitting things as near right on Manual Training equipments as you people are."—A. F. DODD, Supervisor Manual Training, Trenton, N. J.

"I have been over to E. Cleveland, Lakewood, and to Cleveland, and have seen your benches at each place, and without exception they all speak well of them."—R. S. GARDNER, Chairman of Manual Training Committee, Member of the Board of Education, Collinwood, Ohio.

A COMPETENT Buyer does not determine the value of his prospective purchase by the price tags. A high price does not always mean greater value, it often is a shrewd imposition on the uniformed buyer.

INSIST ON SAMPLES



"IT is much easier to follow than to lead, and it is easier to accept the result than to bring it about. We think the Appellant's Lathe marks an advance in the art, that its construction involves invention, and that it should be protected by patent allowance."

Extract from decision allowing patent on our Lathe,
United States Court of Appeals, District of Columbia.